Hitchcock's Machine Tool Blue Book

JANUARY, 1935 THIRTIETH YEAR

Introducing

Universal Motor Drive

Adaptable for all Machine Tools

CONSIDER THESE ADVANTAGES

- A Compact unit with 4 speed changes.
- 100% Better Machine performance.
- 25% increase in operating efficency.
- Modernizes your machines at low cost.
- Easily installed in a few moments.
- Adaptable to any belt driven machine.
- A single pulley B. B. gear box unit.

No Cones to Balance—
No Belts to Shift—
No Power Loss.

Send for circular giving complete details

W. L. STEEGE MACHINERY CO.
Industrial Division
18 S. Clinton St., Chicago, Ill.

PUBLISHED AT 508 So. DEARBORN ST. CHICAGO

S. S. WHITE Super-Quality

STEEL BURS and DRILLS

ABRASIVE POINTS

DISKS

WHEELS

ROTARY FILES, ETC.

CUTTING and GRINDING TOOLS

Over a half century of manufacturing experience is back of these tools. They are made of excellent materials and to an unusual degree of accuracy. They cut fast and clean—save time—last longer. They will cut your small tool costs. TRY THEM. CATALOG TA shows wide range of sizes and shapes.

FLEXTOOLS

Small portable flexible shaft outfits complete with motor and handpiece. Save time and labor on die-sinking, drilling, grinding and innumerable other shop jobs. Once installed, always busy.

FLEXARMS

Flexible Shaft arms, complete with handpiece and ball-bearing coupling for easy attachment to any motor of suitable size.

FLEXIBLE SHAFTS

for all POWER DRIVE and REMOTE CONTROL purposes

Noted for high quality and reliability. Sizes from .041" to .750". Any length. Submit flexible shaft problems for recommendations. No obligation.

The S. S. WHITE Dental Mfg. Co.
INDUSTRIAL DIVISION
152-62 WEST 42ND ST., NEW YORK, N. Y.

MAIL COUPON FOR CATALOG

Send me a copy of CATALOG TA

Name _____

Address _____

City _____ State _____

Hitchcock's
Machine Tool Blue Book

Selected Circulation **20,000 Monthly**

JANUARY, 1935 THIRTIETH YEAR

A Brighter Outlook

Manufacturers of machine tools are much more hopeful than they were a year ago, and with reason.

Inquiries are active, they cover a wider market, and they look more like real business.

One large manufacturer predicts that there will be a shortage of some classes of tools by spring, and that those who delay placing their orders may have to wait weeks, or possibly months, to have them filled.

Certain it is that the delayed orders, if all were placed at once, would keep the machine tool builders busy for a long time to come.

No one expects that all those orders will materialize in the immediate future, but the general outlook warrants the belief that a gratifying number of them will be placed during the coming year.

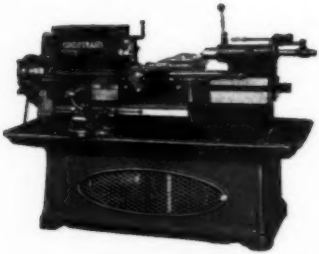
Yes, the outlook for 1935 is decidedly brighter. And the buyer who waits until the last moment to place his orders for machine tools will have only himself to blame if the machines he needs the most cannot be delivered when he wants them.

Published By

Hitchcock Publishing Co.

508 S. Dearborn St., Chicago, Ill.

Consult the Classified Finding Index for your requirements



Six-inch STUB LATHES

Made in automatic type shown above, and semi-automatic, each in 3 models.

Cut cost, increase production on wide variety of work. Write today for circular.

SUNDSTRAND MACHINE TOOL CO. · ROCKFORD, ILLINOIS, U.S.A. ·

BALANCING TOOLS

Made in 5 sizes, with capacities from 800 lbs. to 24,000 lbs Others for propellers, flywheels, pulleys, etc.

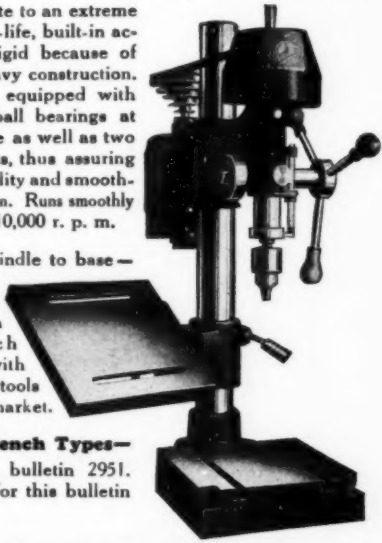
3-WHEEL TOOL GRINDER

For grinding and honing tungsten carbides — steel — stellite. 3 types. Get new circular.

These Sundstrand tools, like our Lathes and Milling Machines, cut costs and make work easier. . . .
INVESTIGATE! Address our Dept. H for details.

Built for . . .
. . . Production

and is accurate to an extreme —with a long-life, built-in accuracy—it's rigid because of the extra heavy construction. The head is equipped with double row ball bearings at top of spindle as well as two additional sets, thus assuring accuracy, rigidity and smoothness of operation. Runs smoothly at speeds to 10,000 r. p. m.



New from spindle to base—this husky, well-designed tool sells at a price which competes with many inferior tools now on the market.

Floor and Bench Types— described in bulletin 2951. Write NOW for this bulletin and prices.

Buffalo Forge Company

161 Mortimer Street, Buffalo, N. Y.

In Canada: Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

"Buffalo"

15-Inch
Heavy-Duty Production Drills

FOOTBURT

A Single Spindle Footburt Sipp Sensitive Drill

Made in three sizes of single and multiple spindle models

More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

FOOTBURT

WANT YOUR PIPE WRENCHES SAFE?

(Foolish question, of course, but here's a sensible answer)

YOU CAN TRUST ALL YOU'VE GOT TO THE POWERFUL NEW ALL-ALLOY 7000 lb. RIDGID

RIDGID *Wrenches are all* Heavy-Duty

7000 LBS.

- This new Super-X Alloy metal we now use for handles and housings has phenomenal strength—more than double that of the old **RIDGID** that won a great reputation for strength.
- We've frequently put a load of 3½ tons on the handle of a 24" **RIDGID**, 9½ inches from the jaws—and it's never quivered. The chrome molybdenum nickel alloy steel jaws didn't groan.
- Use this wrench straight or crooked, side twist or what you want—it'll take it cheerfully, housing and all.
- The more dangerous the job, the more a **RIDGID** Wrench is needed.

THESE FEATURES IN ONE WRENCH!

1. Full-floating hook jaw, with handy pipe scale.
2. Instant grip and let-go—no slipping, no locking on pipe.
3. Replaceable hee jaw.
4. Housing won't break or distort.
5. Adjusting nut spins freely in all sizes, 6" to 60".
6. Powerful I-beam handle of new Super-X alloy metal.

A WHOLE LINE OF SUPER PIPE TOOLS

PIPE THREADERS—11 threaders, to 2" pipe.

PIPE CUTTERS, with super-steel wheel & adj. Tubing cutter.

PIPE VISES—7 yoke and chain vises.

Ask your jobber

THE RIDGE TOOL CO.

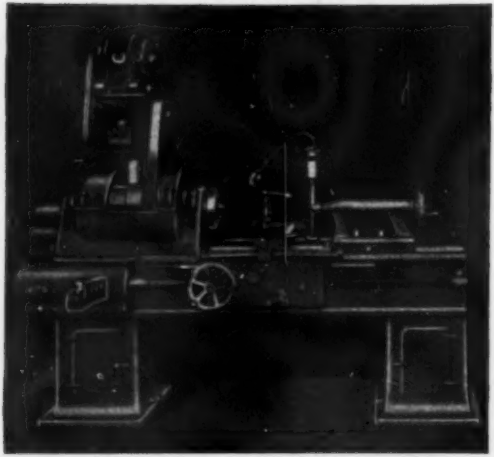
Elyria, Ohio, U. S. A.

NRA

RIDGID

Pipe Wrenches Cutters Vises Threaders

Universal Motor Drive Attachment For All Machine Tools.



The W. L. Steege Machinery Company announce a new Universal Motor Drive Attachment which is adaptable for all machine tools. It is a single pulley gear box unit which increases operating efficiency on an average of about 25 per cent, insuring lower operating costs. It is a most compact unit with 4 speed changes. No changes in the machine tool is necessary when you install the Universal Drive.

All necessary adjustments of the machines are accomplished in the design of the unit. Only two bolt holes are needed in the bed of the machine. The base and column construction adds rigidity.

Any handy mechanic, with ordinary tools, can install this Motor Drive Unit in a few moments. With a single movement of the gear box lever, power is applied, and change made as easily as you would change thread-cutting on a lathe.

The Motor Drive Unit is equipped with ball bearings, and has a Hyatt roller bearing in change lever. Motor can be mounted top, bottom or back. The installation can be used for direct gear or couple drives, with or without column support. For complete details write The W. L. Steege Machinery Co., 18 So. Clinton St., Chicago.

MOTORIZED UNITS

Ratios Up To 6 to 1—⅛ to 3 H. P.

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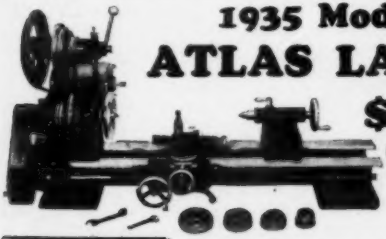
Abart

Gear and Machine Co.

4832 W. 16th St., Cicero, Ill.



1935 Model
ATLAS LATHE

$87.50

Complete

ATLAS DRILL PRESSES

$13.95 to $33.50

A larger, more powerful lathe for 1935—a lathe that will do a real job on everything it tackles. Complete screw-cutting, back-geared. Integral drive. 16 speeds. 10" swing, 24" between centers. Heavy, sturdy back gears give this lathe tremendous power. In our own shop we have repeatedly reduced the diameter of a 3" cold-rolled steel bar **three-quarters of an inch** in a single cut. Self-contained countershaft—ready to run. Automatic, reversible feeds. Graduated compound rest. Other sizes up to 54" between centers.

Send for free catalog

Atlas Press Company

1850 N. Pitcher St., Kalamazoo, Mich., U. S. A.

Please send catalog of metal lathes, drill presses, attachments, also arbor presses.

Name.....

Address.....

City..... State.....

New Canton Catalogue Now Ready

The Canton Foundry & Machine Co., of Canton, Ohio, have just issued an attractive booklet, illustrating and describing their line of Canton Portable Floor Cranes and Hoists.

A particular feature, which can be applied to both old and new models of their line, is the new Safety Friction Load Brake. With this device the operator can wind loads down as easily as up, and no matter at what point he releases his grip the load stays "put"—it cannot slip—thereby insuring perfect safety to both operator and load at all times. Fool-proof, it complies with all State Safety-First Codes, and has the endorsement of Safety Engineers in the nation's leading industries.

A copy of this booklet, giving complete details, will be mailed to those interested on request—address the Canton Foundry & Machine Co., Canton, Ohio.

Permite Leaded Bronze Bearing Stock in Bar Lengths Now Handled by Ryerson

Permite leaded bronze bearing stock in bar lengths up to 6 feet now comes to industry for the first time through the exclusive distributorship of Joseph T. Ryerson & Son, Inc., according to a recent announcement by the sales management of Ryerson.

These longer lengths make possible the speed production of bearings and bushings on a lathe or screw machine. And the Permite Bronze Bar stock has the additional advantages of exceptionally free machineability and an exclusive turned finish that permits positive chucking. These last two features alone are said to increase the rate of production as much as 50% over that possible with conventional stocks.

Permite bars are available through Ryerson in all the standard bronze alloys, in lengths up to 6 feet. Diameters available are 5/8" to 2", by sixteenths, and the stock is turned to an accuracy of plus or minus .002".

WITTEK
AUTOMATIC
Roll Feeds

FOR PUNCH PRESSES

Will feed from 0" to 30" per stroke. Fits any size or make of press.

Fast
Accurate
Automatic

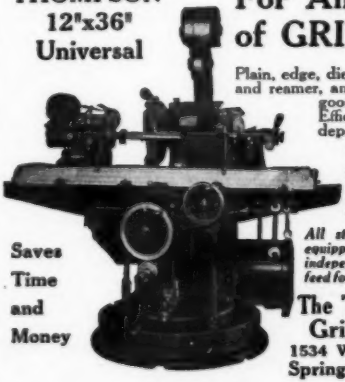
Low in first cost. No upkeep. Built with or without straightener to meet all feeding conditions.

Write for Bulletin FH and free trial offer.

WITTEK MFG. CO.
4305 W. 24TH PL. CHICAGO, ILL.

THOMPSON
12"x36"
Universal

For All Kinds of GRINDING



Plain, edge, die, surface, cutter and reamer, and internal—and good at all of them. Efficient, accurate, dependable.

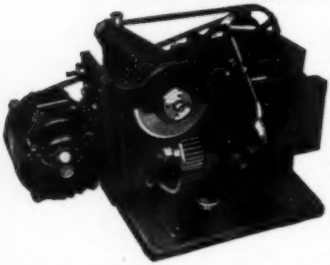
Work adjusts to a fixed grinding wheel, an exclusive feature that's better.

All standard machines equipped with auxiliary independent coarse cross feed for surface grinding.

Saves Time and Money

The Thompson Grinder Co.
1534 West Main St.,
Springfield, Ohio

Small Metal Saws Sharpened Automatically in Gangs



The No. 35T Automatic Saw Grinder illustrated is a recent development of The Wardwell Mfg. Co., 3167 Fulton Road, Cleveland, Ohio, for sharpening milling, slitting and screw slotting saws.

A gang of saws is lined up on the arbor and ground completely at one setting, within a variation of plus or minus .001" of exact diameter for the entire lot. The grinding is done with a wheel of suitable thickness properly shaped to sharpen the tooth points and gum the throats in one operation.

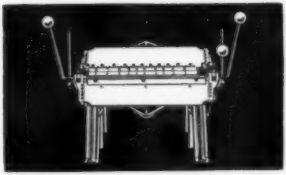
The machine is fully automatic in its operation; has a rigid strong one-piece frame casting; all bearings are ball or bronze; the worm and gears run in heavy oil; saw arbor is arranged for vertical and horizontal adjustments. A stop, or aligning gauge, is provided for quickly lining up the saw teeth when placing the saws in position for grinding, and swings down out of the way after the saws are locked on the arbor.

The saws are automatically fed, at a speed of 28 teeth per minute, by a 5" diameter index plate, which is fastened to the other end of the saw arbor. The feeding is entirely independent of the saws and no attention is required after the machine is once started. The feeding of the saw against the grinding wheel also automatically feeds the face of the tooth against the side of the wheel, grinding off the face of the tooth and resulting in greater precision and accuracy of the saw.

A 6" diameter. 3/16" thick grinding wheel is employed. A diamond dresser can be furnished, which is mounted to the wheel guard. This dresser has a horizontal adjustment to the wheel and swings in line with the center of the spindle. It is also adjustable for any angle desired.

The capacity of this Grinder is for saws from 2 to 5½ inches in diameter, with tooth spacing up to ⅜" from point to point. The saw arbor has a capacity for holding saws up to 1¾" in thickness. The machine can be furnished either belt or motor drive. Further information will be furnished upon request.

Chicago Steel Brakes



Over 30,000 in use.

Made in all types and over 100 standard sizes.

Box and Pan Brake Suitable for Regular Bending or Box Work Without Change of Adjustment.

Send For Catalog

DREIS & KRUMP MFG. CO.

7440 Loomis Blvd., CHICAGO, ILL.

Lever Operated

Foot Operated

Also Solenoid Operated

Two, Three and Fourway Valves

It may be a simple matter to change a leather washer in an air valve to stop a bad leak, but it isn't the cost of the change that is important, it is the cost of the air lost during the weeks prior to the change. Further, this air loss and leather washer change in some makes of valves continues on year in and year out. Nicholson Valves are made of non-corrosive metals, are soap bubble tight, and remain so over periods as long as six years without maintenance of any kind.

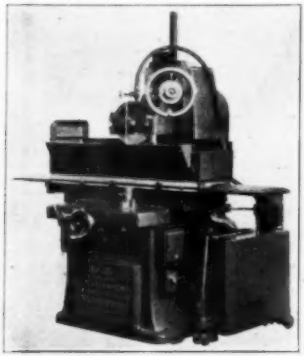
Sent on trial. Bulletins on request.

W. H. Nicholson & Company

117 Oregon Street, Wilkes-Barre, Pa.

The New Grand Rapids No. 37 Hydraulic Feed Surface Grinder

The Gallmeyer & Livingston Co. of Grand Rapids, Michigan, have developed a new hydraulic feed surface grinder known as the Grand Rapids No. 35. It is a self-contained motor driven unit, standard equipment including two motors, one mounted in the base for driving the hydraulic mechanism and the second attached to an adjustable bracket mounted on the head and used for driving the grinding wheel spindle.



The machine is built around a one-piece column and base casting which weighs in excess of 1500 pounds, thus guaranteeing a permanence of alignment between the vertical head ways and the cross saddle ways, together with utmost rigidity. It is equipped with a Vickers pump and a specially designed valve, completely eliminating high pressure flexible hose.

Working surface of table is 8"x24" and a hydraulic longitudinal movement of 26" and transverse movement of 9¼" makes it possible for operator to cover the entire working surface of the table with the 10"x1" grinding wheel which is furnished. Maximum longitudinal table speed is in excess of 100 feet per minute and jobs requiring extreme accuracy and fine finish can be produced at this maximum speed. The longitudinal speed is variable and is controlled by a small hand wheel conveniently mounted, closely adjacent to the start and stop lever.

An interesting feature is the method of raising and lowering the wheel head. A large hand wheel provides direct action through a worm and worm gear to the elevating mechanism, allowing accurate. rapid adjustment. This hand wheel is graduated in one-quarter thousandths with a movable pointer which can be set for convenient readings. To obtain very accurate readings for grinding to close limits, a small hand wheel or knurled knob

(*Continued on Page 16*)

HAND-EE GRINDER

QUICKER BETTER JOBS

Weighs 1 pound. Fits the hand perfectly. Plug in any light socket and do 1001 jobs. Over 100 wheel shapes available. Do away with slow hand work. Grinds, routs, drills, carves, sharpens, cuts, engraves. Use it at bench or take it to the job. For shop, home or tool kit.

Ask for FREE Booklet

$10.00 and up Postpaid U. S. A. **With 3 wheel shapes Free. Order today.**

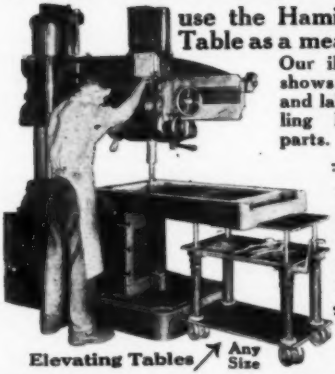
Model A (A. C. or D. C. operation) 110 volt, 13,000 r. p. m. Order on 5-day trial—satisfaction guaranteed.

New

MASTER CRAFTSMAN'S SET
17 useful accessories to grind, drill, polish, sand, cut, carve, engrave, etc.
Prepaid, $5.00

CHICAGO WHEEL & MFG. COMPANY
116 S. Aberdeen St., Chicago, Ill.

When machining heavy dies,



use the Hamilton Elevating Table as a means of support.

Our illustrated circular shows how to save time and labor in safely handling heavy machinery parts.

We design and build dies, jigs, and time saver machinery.

Elevating Tables ↗ **Any Size**

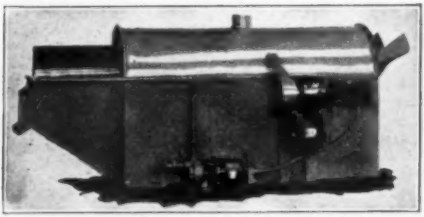
Write for Prices

The Hamilton Tool Co., Hamilton, Ohio, U S.A.

in the center of the large wheel is used, which provides a back geared action to the elevating mechanism. The disc in the center of this small wheel has a graduated dial which can be set at zero in relation to the pointer on the wheel. Both the inner and outer wheels turn, but the graduations on the inner are arranged to read on the moving pointer, giving a Vernier effect. This patented feature makes it easily possible to get readings of adjustments in tenths of a thousandth, with the ten thousandth graduations over one-eighth inch apart.

The No. 35 has a one-shot lubricating system and can be furnished with a portable self-contained coolant system. Net weight is close to 4000 pounds. Complete information may be obtained by writing to the Gallmeyer & Livingston Co.

New Ransohoff Continuous Washer



A continuous washer for metal parts, that subjects the work to a soaking and a spray wash and transfers it from one drum to another without dropping it—an important feature when handling threaded work and other delicate parts—is announced by N. Ransohoff, Inc., Cincinnati, Ohio.

In the first drum the work is eased along by a welded worm, submerged in hot cleaning compound that facilitates drying later. The dirt is completely loosened. The work passes (without dropping) through a patented head into the next compartment, perforated, where a hot spray removes loosened dirt and chips. The last section is a draining drum from which the work emerges to dry of its own heat. Fresh compound is pumped from a tank below. A skimming dam in the tank removes scum. A chip pan and removable screen chip basket effectively remove the chips.

The unit is completely self-contained. Driving motor and pump are hung on the side. Tight hood, to be connected to exhaust system, prevents escape of vapor to the room. Drum rolls on chilled rollers which turn free on roller bearing stub shafts. Drum and worm construction prevents work from sticking, insures all work coming out.

Standardize on

MARVEL

HOLE SAWS

Standardize on MARVEL Hole Saws and you will be ready for any job. Their greater strength, Genuine High-Speed Steel Edge and ***unbreakable*** body, adapts them for cutting large holes everywhere—for light ***or deep*** drilling, even for production use on drill presses. Sizes to 4⅛ inches, interchangeable arbors for standard chucks—they can always be counted on to give large, true holes at low cost.

Write for Circular

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

341 N. Francisco Ave., CHICAGO, U. S. A.

Many Types and Sizes

Strand

TYPE RF-M4 ¼ H. P.

ROTARY FILES

Flexible Shafts
And
Machines

For

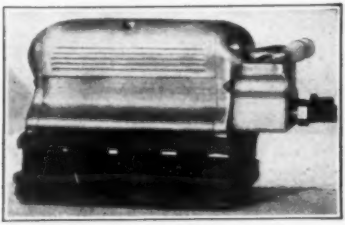
Tool and Die Makers
Metal Patternmakers
Machine Shops
Foundries and All General Manufacturing Plants.

Sixty Types and Sizes—⅛ to 2 H. P.

N. A. STRAND & CO.
MANUFACTURERS

5001-5009 North Lincoln Street, CHICAGO, ILL.

Sterling Introduces New Sander



A most unique sanding and polishing machine for industrial use is being introduced by the Sterling Products Co. 2842 W. Grand Ave., Detroit, which they state cuts the time element in half. It weighs seven pounds, and operates on 70 pounds or more of compressed air, (using 6 cu. ft. of air per minute), thus making it suitable for small shops as well as the heaviest production lines.

The Sterling Speed-Bloc Sander operates on a principle not entirely new, but it is claimed that it applies this principle more successfully than any similar device yet introduced for use on metal, wood, or marble surfaces. This equipment is unique in that its sanding motion is an oscillating or reciprocating one. The stroke travel of the abrasive pad is one and one-quarter inches, at the rate of between 2500 and 3000 oscillations per minute. The pad moves back and forth with the same motion as in hand sanding, hence it does not leave a graining or chasing in the surface.

Several sheets of abrasive may be attached to the pad at one loading. Ordinary sheets are cut in three pieces without waste. A standard grade abrasive, with a heavier (large mesh) may be used than with hand sanding, an important factor in speed of production. The speed and eveness of the stroke tends to keep the abrasive free of clogging or balling, with consequent longer wear.

For wet sanding, a water connection is provided with a series of openings on each side of the machine, allowing a spray easily adjusted to the need of the work.

The Sterling Speed-Bloc Sander is adaptable to work in any industry where abrasive paper, felt or wool are used in finishing metal, wood, or marble surfaces.

TAPPING DEVICES

HAVE BEEN OUR SPECIALTY FOR OVER 25 YEARS

NOW THE NEW

"PROCUNIER"

SENSITIVE HIGH SPEED

TAPPING ATTACHMENT

FRICTION DRIVE At Spindle Speed

FRICTION REVERSE At Twice Spindle Speed

BALL BEARINGS

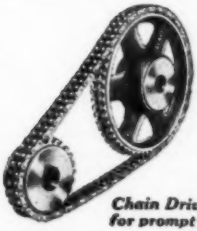
Also other sizes and styles

Write for our catalog with prices

PROCUNIER SAFETY CHUCK CO.

14 S. Clinton St., Chicago, Ill.

STANDARDIZATION PAYS



UP TO

ONE HUNDRED HORSEPOWER

FROM STOCK!

Chain Drives of greater horsepower available for prompt shipment—Silent and Roller Types.

SEND FOR CATALOG

BOSTON GEAR WORKS, INC.

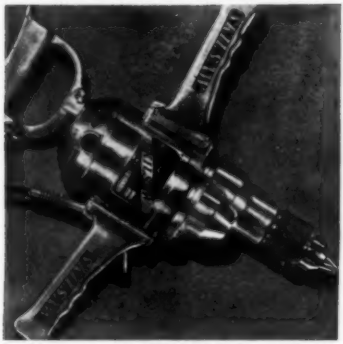
DEPT. HMT, NORTH QUINCY, MASS.

Sales Offices: Springfield, Mass., Utica, N. Y., Dayton, Ohio and Greensboro, N. C.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

BOSTON GEARS

Skilsaw Adds New 5/8" Standard Drill



It is only a year since Skilsaw Ball Bearing Electric Drills were introduced on the market, but during that time they have already established a remarkable record for power and smooth performance. Now Skilsaw, Inc., of 3304 Elston Ave., Chicago, announce an important addition to this line of tools – a new Skilsaw Drill of 5/8" capacity in steel, which, like its companions. is featured by engineering improvements and refinements which affect the entire construction of the tool.

The Skilsaw 5/8" Standard Drill has as its first major point a specially designed motor which delivers substantially more power under load for a drill of this size. In this respect its performance is decidedly surprising. The motor used is of the Unive·sal type, for operation on D. C. or A. C., 60 cycle or less (all voltages), and the armature is statically and dynamically balanced to eliminate vibration. Field and armature windings are baked in Bakelite and varnish to insure perfect insulation and long life.

Second, the Skilsaw 5/8" Drill is housed in a Die Cast Aluminum Alloy Body—a feature which means increased strength and lighter weight, greater accuracy, interchangeability of parts, a dense surface and many other advantages not found in ordinary sand castings.

The smoothness of the Drill and its reliable performance under heavy service are guaranteed by the use of New Departure ball bearings throughout on motor, spindle and gears, and by the micrometric precision in the manufacture of the heat-treated alloy gears and shafts.

(*Continued on Page 22*)

ARMSTRONG

TRADE MARK REG. IN U.S. PAT. OFFICE

Drop-Forged

Lathe Dogs "C" Clamps

These are lifetime tools that do not spread or give—that can be depended on not to slip. Drop forged from special open hearth steel, they have extraordinary stiffness, toughness . . . strength. Screws have double wear threads, are of special steels hardened at the point. They will not "upset". Hubs of these Lathe Dogs are over-size, large enough to permit re-tapping, to give double life.

Sizes and Types for every machine shop and tool room use, each an ARMSTRONG TOOL—the finest that can be made.

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New York Sales Offices, 109 Lafayette St.

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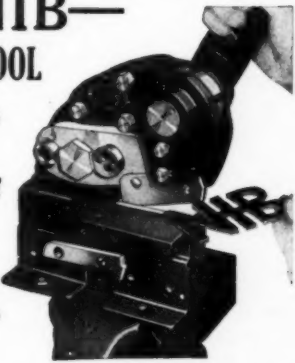
A NIBBLING TOOL



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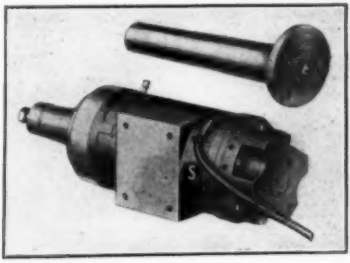
Standard Combination Angle Plate Grinder



The illustration shows the 5 HP Combination Angle Plate Grinder which has been placed on the market by The Standard Electrical Tool Co., 1938 W. 8th St., Cincinnati, Ohio.

This machine is powered by a General Electric 3600 RPM motor. The motor shaft is fitted with two SKF ball bearings, while the grinding wheel spindle is equipped with three SKF ball bearings, two bearings being located at the wheel end to take care of the end thrust.

Can be furnished with solid spindle, or with clutch arrangement so that the short extension is interchangeable with the longer extension.

This is a versatile machine, as the pad on the back of the motor is for mounting when used on a Boring Mill. The pad on the side of the motor housing is arranged for mounting on the rail of a Planer, or can be fitted with a plain angle plate for attaching to a Lathe.

Furnished for alternating current only in 3, 5 and 7½ HP sizes.

Also furnished with vertical or horizontal feed or with vertical and horizontal feeds.

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ANGLE TOOL
for
WHEEL DRESSING

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Always Sharp

Reduce Grinding Costs

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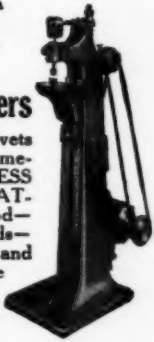

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FLAT WORK

Ring Wheels 12" and 18"
Table travels 16" and 24"

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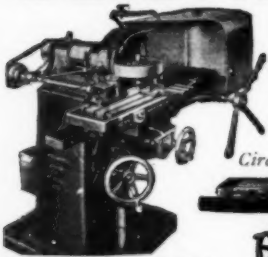

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Finish Belt Surface, Crowned or Straight, from the Rough. *Also* **Truck Treads and Curved Work.**

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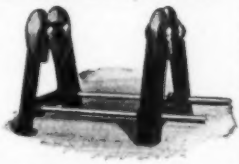

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Greatest distance bet. standards	20"	30"	30"	66"	88"	20'
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Approx. shipping weight	45	90	150	350	650	
Code	Bend	Bid	Bin	Bib	Ben	

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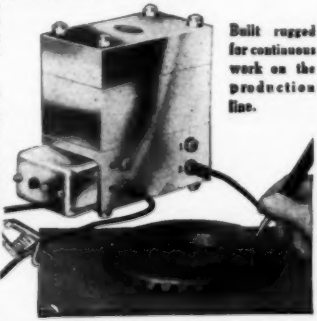

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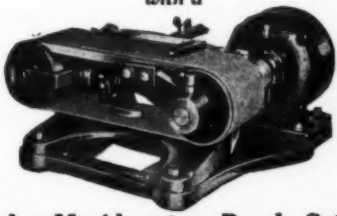

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This Grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. *Details of this and other styles and sizes on request.*

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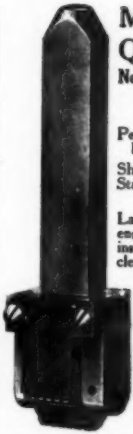
Copies of either bulletin will be sent upon request to those interested. Write the Morton Company at the address above.



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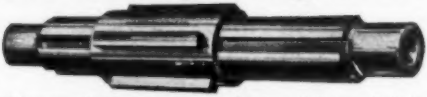

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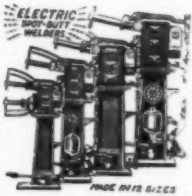

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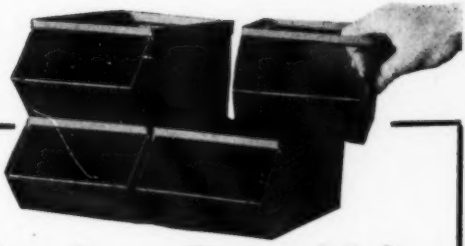

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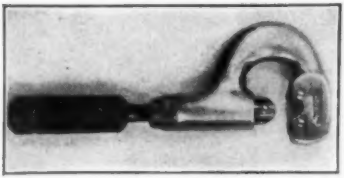

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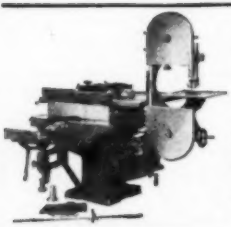

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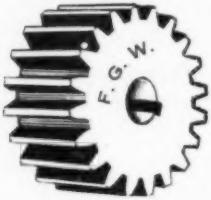

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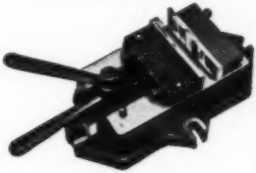

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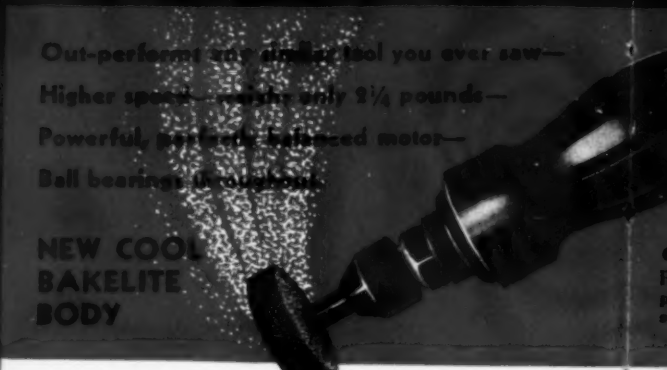

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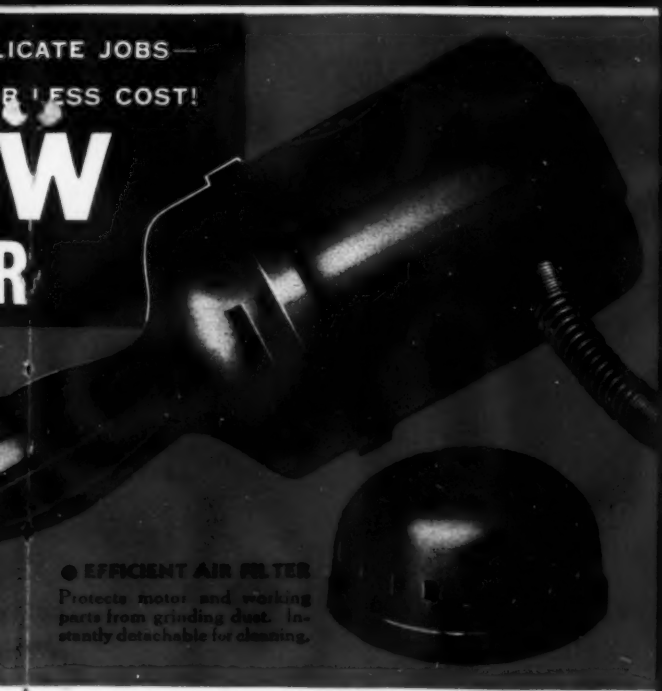

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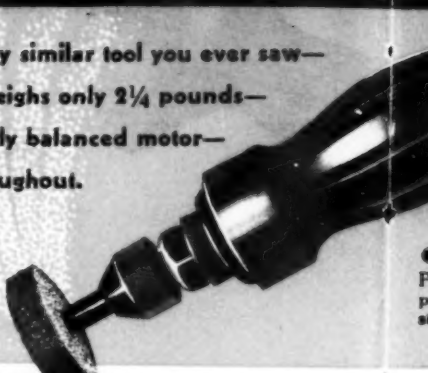

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Chucks, Collet
Procunier Safety Chuck Co., 14 S. Clinton St., Chicago

Chucks, Drill and Tap
Hartford Special Mchy. Co., Hartford, Conn.
Procunier Safety Chuck Co., 14 S. Clinton St., Chicago

Chucks, Quick Change
Procunier Safety Chuck Co., 14 So. Clinton St., Chicago

Chucks, Ring Wheel Grinder
Graham Manufacturing Co., Providence, R. I.

Cold Saws
Burke Machine Tool Co., Conneaut, Ohio

Collets
Wade Tool Co., Waltham, Mass.

Contract Work Wanted
Burke Machine Tool Co., Conneaut, O.

Controllers, Drum Type
The Cleveland Elect. Motor Co., Cleveland, Ohio

Couplings
Advance Tool & Die Casting Co., Milwaukee, Wis.

Couplings, Compression Shaft
W. H. Nicholson & Co., Wilkes Barre, Pa.

Couplings, Flexible
W. H. Nicholson & Co., Wilkes-Barre, Pa.

Couplings, Shaft
W. H. Nicholson & Co., Wilkes-Barre, Pa.

Cut-off Saws
Tannewitz Works, Grand Rapids, Mich.

Demagnetizers
Luma Electric Equipment Co., Toledo, Ohio

Diamonds, Industrial & Rough
Mendes Cutting Factories, Inc., 505 Fifth Ave., New York City

Diamond Pointed Tools
Mendes Cutting Factories, Inc. 505 Fifth Ave., New York City

Dies, Blank and Forming
American Tool Works, Inc., Hartford, Conn.
Hamilton Tool Company, Hamilton, Ohio
Wade Tool Co., Waltham, Mass.

Die Sets
Baumbach Mfg. Co., E. A., 1812 So. Kilbourne Ave., Chicago

Dividing Heads
Wm. Carroll & Son, Norwood, Cincinnati, O.

Dowel Pins, Steel
Acme Industrial Co., 419 N. Carpenter St., Chicago, Ill.
Baumbach Mfg. Co., E. A., 1812 So. Kilbourne Ave., Chicago

Drill Jigs, Special
Heuser Mfg., Co., 1686 No. Paulina St., Chicago, Ill.

Drill Jigs, Universal
Heuser Mfg. Co., 1686 No. Paulina St., Chicago, Ill.

Drilling Attachments, High Speed
Graham Manufacturing Co., Providence, R. I.

Classified Finding Index

Drilling Machines, Bench
Buffalo Forge Company, Buffalo, N. Y.

Drilling Machines, Multiple Spindle
Foote-Burt Co., Cleveland, O.
Rockford Drilling Mchs. Co., Rockford, Ill.

Drilling Machines, Portable Electric
Skilsaw, Inc., 3317 Elston Ave., Chicago
Strand Co., N. A., 5001 N. Lincoln St., Chicago
White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City

Drilling Machines, Sensitive
Buffalo Forge Company, Buffalo, N. Y.
Burke Machine Tool Co., Conneaut, Oh
Foote-Burt Co., Cleveland, O.

Drilling Machines, Vertical
Buffalo Forge Company, Buffalo, N. Y.
Foote-Burt Co., Cleveland, O.
Rockford Drilling Mchs. Co., Rockford, Ill.

Drives, Lathe
Cullman Wheel Co., 1320 Altgeld St., Chgo.

Electrical Instruments
Illinois Testing Laboratories, Inc., 155 W. Austin Ave., Chicago

Elevating Tables
Hamilton Tool Company, Hamilton, Ohio

Emery Wheel Dressers and Cutters
Western Tool & Mfg. Co., Springfield, O.

Emery Wheel Dressers, Diamond
Mendes Cutting Factories, Inc., 505 Fifth Ave., New York City

Etching Machines, Electric
Luma Electric Equipment Co., Toledo, Ohio

Experimental Work
American Tool Works, Inc., Hartford, Conn.

Files, Rotary
White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City.

Furniture, Machine Shop
Western Tool & Mfg. Co., Springfield, O.

Gages, Pin, Plug, Ring and Snap
American Tool Works, Inc., Hartford, Conn.

Gages, Taper
Hartford Special Mchy. Co., Hartford, Conn.

Gears
Abart Gear & Machine Co., Cicero, Ill.
Boston Gear Works Inc., North Quincy, Mass.
Chicago Gear Works, 769 W. Jackson Blvd., Chicago, Ill.
Foote Gear Works, 4600 West 13th St., Chicago, Ill.

Grinder, Electric
Chicago Wheel & Mfg. Co., M. C. Tool Div., 116 So. Aberdeen St., Chicago, Ill.

Grinder, Hand
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.
Onsrud Machine Works, Inc., 2900 Palmer St., Chicago, Ill.

Grinder, High Speed
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.

Grinding Machines, Belt
Walls Sales Corp., 96 Warren St., New York

Grinding Machines, Cutter, Reamer and Tool
National Machine Tool Co., Racine, Wis.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die
Onsrud Machine Works, Inc., 2900 Palmer St., Chicago, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Internal
National Machine Tool Co., Racine, Wis.
Onsrud Machine Works, Inc., 2900 Palmer St., Chicago, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Portable Electric
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.
National Machine Tool Co., Racine, Wis.
Strand Co., N. A., 5001 N. Lincoln St., Chicago
White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City

Grinding Machines, Pulley Finishing
Graham Manufacturing Co., Providence, R. I.

Grinding Machines, Ring Wheel
Graham Manufacturing Co., Providence, R. I.

Grinding Machines, Surface
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Universal
Thompson Grinder Co., Springfield, Ohio

Grinding Wheels
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.

Grinding Wheel Dressers, Diamond
Mendes Cutting Factories, Inc., 505 Fifth Ave., New York City

Grinding Wheels, Mounted
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.

Grinding Wheels On Shanks
Chicago Wheel & Mfg. Co., M.C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.

Hack Saw Blades
Armstrong-Blum Mfg. Co., 841 N. Francisco Ave., Chicago

Classified Finding Index

Hack Saw Machines
Armstrong-Blum Mfg. Co., 841 N. Francisco Ave., Chicago

Hand Saws, Portable Electric
Skilsaw, Inc., 2317 Elston Ave., Chicago

Heads, Boring
Flynn Manufacturing Co., Detroit, Mich.

Index Centers
Wm. Carroll & Son, Norwood, Cincinnati, O.

Jigs and Fixtures
American Tool Works, Inc., Hartford, Conn.
Hamilton Tool Company, Hamilton, Ohio
Hartford Special Mchy. Co., Hartford, Conn.

Knurls and Holders, for Turrets
Graham Manufactoring Co., Providence, R. I.

Knurls
Reed Small Tool Works, Worcester, Mass.

Lapping Machines
Onsrud Machine Works, Inc., 3900 Palmer St., Chicago, Ill.

Lathe Drives
Cullman Wheel Co., 1359 Altgeld St., Chgo.

Lathes, Bench
Atlas Press Co., Kalamazoo, Mich.
Wade Tool Co., Waltham, Mass.

Lathes, Manufacturing
Sundstrand Machine Tool Co., Rockford, Ill.

Leader Pins, Steel
Acme Industrial Co., 419 N. Carpenter St., Chicago, Ill.

Mandrels, Expanding
W. H. Nicholson & Co., Wilkes-Barre, Pa.
Western Tool & Mfg. Co., Springfield, O.

Micrometers
Bradley Machinery Co., Detroit, Mich.

Milling Attachments
Burke Machine Tool Co., Conneaut, Ohio

Milling Machines, Bench
Burke Machine Tool Co., Conneaut, Ohio
Sundstrand Machine Tool Co., Rockford, Ill.

Milling Machines, Hand
Burke Machine Tool Co., Conneaut, Ohio
Sundstrand Machine Tool Co., Rockford, Ill.

Milling Machines, Plain
Burke Machine Tool Co., Conneaut, Ohio
Sundstrand Machine Tool Co., Rockford, Ill.

Motor Drives, Universal
Stonge Mchy. Co., W. L., 18 So. Clinton St., Chicago, Ill.

Motors, Polyphase
The Cleveland Elect. Motor Co., Cleveland, Ohio
U. S. Electrical Mfg. Co., 1510 So. Western Ave., Chicago, Ill.

Motors Varidrive
U. S. Electrical Mfg. Co., 1510 So. Wastern Ave., Chicago, Ill.

Numbering Machines
Numberail Stamp & Tool Co., Staten Island, N. Y.

Pins, Leader And Dowel
Acme Industrial Co., 419 N. Carpenter St., Chicago, Ill.
Baumbach Mfg. Co., E. A., 1812 So. Kilbourne Ave., Chicago

Pipe Cutters
Ridge Tool Co., Elyria, Ohio

Pipe Vises
Ridge Tool Co., Elyria, Ohio

Pipe Wrenches
Ridge Tool Co., Elyria, Ohio

Press Brakes
Dreis & Krump Mfg. Co., 7440 Loomis Blvd., Chicago, Ill.

Presses, Arbor
Atlas Press Co., Kalamazoo, Mich.
W. H. Nicholson & Co., Wilkes-Barre, Pa.
Wilson, E. K., Buffalo, N. Y.

Presses, Power
Dreis & Krump Mfg. Co., 7440 Loomis Blvd., Chicago, Ill.

Presses, Punch
Allsteel Press Co., 12015 So. Peoria Street, Chicago, Ill.
Lewthwaite Mchs. Co., T. H., 311E. 47th., N. Y.
Dreis & Krump Mfg. Co., 7440 Loomis Blvd., Chicago, Ill.

Profiling Machines
Wade Tool Co., Waltham, Mass.

Punch Press Feeds
Wittek Mfg. Co., 4300 W. 24th Place, Chgo.

Punch, Shear and Bender, Hand
Armstrong Blum Mfg. Co., 841 N. Francisco Ave., Chicago

Punches, Hand
Armstrong-Blum Mfg. Co., 841 N. Francisco Ave., Chicago
Buffalo Forge Company, Buffalo, N. Y.
Lewthwaite Mchs. Co., T. H., 311 E. 47th, New York
Whitney Metal Tool Co., Rockford, Ill.

Punches and Dies
Lewthwaite Mchs. Co., T. H., 311E. 47th., N. Y.

Pyrometers
Illinois Testing Laboratories, Inc., 150 W. Austin Ave., Chicago

Pyrometers, Portable & Stationary
Illinois Testing Laboratories, Inc., 150 W. Austin Ave., Chicago, Ill.

Ratchets
Chicago Gear Works, 709 W. Jackson Blvd., Chicago, Ill.

Reamer Holders
W. H. Nicholson & Co., Wilkes-Barre, Pa.

Classified Finding Index

Riveters, Multiple Spindle
Grant Mfg. & Mchc. Co., Bridgeport, Conn.

Riveters, Pneumatic
Grant Mfg. & Mchc. Co., Bridgeport, Conn.

Riveting Machines
Grant Mfg. & Mchc. Co., Bridgeport, Conn.

Rod Cutters
Armstrong-Blum Mfg. Co., 841 N. Francisco Av., Chicago
Lewthwaite Mchc. Co., T.H., 311 E. 47th, N. Y.

Routing Machines
Onsrud Machine Works, Inc., 3000 Palmer St., Chicago, Ill.

Rubber, To Special Formulas
White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City

Scraping Machines
Anderson Bros. Mfg. Co., Rockford, Ill.

Shafts, Flexible
Strand Co., N. A., 5001 N. Lincoln St., Chgo.
White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City

Shaping Machines
Osborne & Sexton Machy. Co., Columbus, O.

Shears, Hand
Armstrong-Blum Mfg. Co. 841 N. Francisco Av., Chicago
Lewthwaite Machine Co., T.H., 311 E. 47th St., New York
Whitney Metal Tool Co., Rockford, Ill.

Shear, Power
Dreis & Krump Mfg. Co., 7440 Loomis Blvd., Chicago, Ill.

Shears, Slitting
National Machine Tool Co., Racine, Wis.
Dreis & Krump Mfg. Co., 7440 Loomis Blvd., Chicago, Ill.

Special Tools and Machinery
American Tool Works, Inc., Hartford, Conn.
Wade Tool Co., Waltham, Mass.

Speed Reducers
Abart Gear & Machine Co., Cicero, Ill.
Boston Gear Works, Inc., North Quincy, Mass.
Chicago Gear Works, 769 W. Jackson Blvd., Chicago Ill.
Cullman Wheel Co., 1359 Altgeld St., Chgo.
Foote Gear Works, 4900 West 13th St., Chicago, Ill.

Spot Welding Machines, Speed.
Eisler Engineering Co., Inc., Newark, N. J.

Sprockets
Boston Gear Wks. Inc., North Quincy, Mass.
Chicago Gear Works, 769 W. Jackson Blvd., Chicago, Ill.
Cullman Wheel Co., 1359 Altgeld St., Chgo.

Straightening Machines
Whitney Metal Tool Co., Rockford, Ill.

Stud Setters
Procunier Safety Chuck Co., 14 S. Clinton St., Chicago

Tap Extractors
Walton Co., Hartford, Conn.

Tap Holders
Procunier Safety Chuck Co., 14 S. Clinton St., Chicago

Tapping Attachments
Procunier Safety Chuck Co., 14 S. Clinton St., Chicago, Ill.

Tapping Jigs, Universal
Heuser Mfg. Co., 1638 No. Paulina St., Chicago, Ill.

Tapping Machines and Attachments
Burke Machine Tool Co., Conneaut, Ohio
Procunier Safety Chuck Co. 14 So. Clinton St., Chicago, Ill.
Whitney Metal Tool Co., Rockford, Ill.

Thermometers, Resistance Type
Illinois Testing Laboratories, Inc., 150 West Austin Ave., Chicago, Ill.

Threading Machines, Automatic, Stud
Grant Mfg. & Mchc. Co., Bridgeport, Conn.

Threading Tools
Armstrong Bros. Tool Co., 969 N. Francisco Av., Chicago
Ridge Tool Co., Elyria, Ohio.

Tool Holders
Armstrong Bros. Tool Co., 969 N. Francisco Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

Classified Finding Index

Tools, Abrasive

White Dental Mfg. Co., S. S., 152 W. 42nd St., New York City.

Tools, Boring

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Lathe and Planer

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Machinists'

Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tube Flanging Machines

Grant Mfg. & Mchs. Co., Bridgeport, Conn.

Universal Drill Jigs

Heuser Mfg. Co., 1638 No. Paulina St., Chicago, Ill.

Universal Joints

American Tool Works, Inc., Hartford, Conn.
Boston Gear Works Inc., Norfolk Downs, Mass.

Used and Rebuilt Machinery

Alamo Engine Co., Hillsdale, Mich.
American Machinery Co., Cleveland, Ohio
Atlas Equipment Co., 114 S. Clinton St., Chicago, Ill.
Bernstein, Geo. M., 221 N. Elizabeth St., Chicago, Ill.
Bickford & Co., H., Lakeport, N. H.
Biesser Mfg. & Mchy. Co., Springfield Ill.
Brown Machinery Co., St. Louis, Mo.
Brownell Machinery Co., Providence, R. I.
Burns Mchy. Co., C. B., 23 No. Clinton St., Chicago, Ill.
Centro Mchy., Co., 249 Centre St., New York City
Cincinnati Mchy. & Supply Co., Cincinnati, O.
Clinton Machinery Co., 33 So. Clinton St., Chicago, Ill.
Consolidated Machine Shops, 2862 Fulton Chicago, Ill.
Davis Machinery Co., Toledo, Ohio.
Eastern Machinery Co., Cincinnati, O.
Elyria Belting & Mchy. Co., Elyria, Ohio.
Emerman & Co., Louis E., 1761 Elston Ave., Chicago, Ill.
Easley Machinery Co., E. L., 825 Mees St., Chicago, Ill.
Goldman, Harvey H., Detroit, Mich.
Herbon Machinery Equipment Co., 30 S. Clinton St., Chicago, Ill.
Hill, Clarke & Co., 545 W. Washington Blvd., Chicago, Ill.
Indianapolis Machinery & Supply Company, Indianapolis, Ind.
Interstate Mchy. Co., 139 S. Clinton, Chgo.
Interstate Machinery Corp., Jersey City, N. J.
Iroquois Machinery Co., Buffalo, N. Y.
Johnson & Sons Machinery Co., Wm. C., St. Louis, Mo.
Jones Machine Tool Co., Cincinnati, Ohio
Kennard-Rafkin Mchy. Corp., Jersey City, N. J.
Klauber Mchy. Co., E. L., St. Louis, Mo.
Lucas & Son, J. L., Bridgeport, Conn.
McDonald Machinery Co., St. Louis
Marr-Galbreath Mchy. Co., Pittsburgh, Pa.
Mayer Blower Co., Wm. W., 1045 West Washington Blvd., Chicago, Ill.
Midwest Equipment Co., 628 W. Lake St., Chicago, Ill.
Mid-West Machine Tool & Supply Company, Davenport, Iowa
Miles Machinery Co., Saginaw, W. S., Mich.
Moroy & Co., 45 Mill St., Astoria, Long Island, N. Y.

Used and Rebuilt Machinery—Cont.

Noble Machinery Co., 217 Centre St., New York, N. Y.
Norton-Broadway Machinery Co., Cincinnati, Ohio
O'Brien Machinery Co., Philadelphia
Orlatt & Co., D. C. Cleveland, Ohio
Osborne & Sexton Machy. Co., Columbus, O.
Reliance Machinery Sales Co., Pittsburgh, Pa.
Russell Machine Co., Pittsburgh, Pa.
Scott-Bannbach Mchy. Co., 4607 W. 20th St., Chicago
Segal Machinery Co., 809 W. Lake St., Chicago, Ill.
Simmons Machine Tool Corp., Albany, N. Y.
Steege Mchy. Co., W. L., 18 So. Clinton St., Chicago, Ill.
Stegeman Machinery Co. Milwaukee, Wis.
Strong, Carlisle & Hammond Co., Cleveland, Ohio
Sun Machinery Co., 28 Van Buren Street, Newark, N. J.
United Mchry. & Supply Co., St., Louis, Mo.
Victor Machinery Co., 128 S. Clinton Street, Chicago, Ill.
Victor Machinery Exchange, 251 Center St., New York City
West Penn Machinery Co., Pittsburgh, Pa.
White Machy. Co., A. D., 108 N. Jefferson St., Chicago
Wigglesworth Mchy. Co., Cambridge, Mass.
Weinlick Machinery Sales, 21st & Marshal Blvd., Chicago, Ill.

Valves, Foot, Lever & Solenoid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

Vises, Drilling Machine

Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Graham Manufacturing Co., Providence, R. I.
Heuser Mfg. Co., 1638 No. Paulina St., Chicago, Ill.
Martin Tool & Die Works, J. E., Springfield, O.

Vises, Machinists'

Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine

Graham Manufacturing Co., Providence, R. I.
Hartford Special Mchy. Co. Hartford, Conn.

Vises, Shaper

Graham Manufacturing Co., Providence, R. I.

Welding Machines, Electric Spot

Elster Engineering Co., Inc., Newark, N. J.

Welding Machines, Resistance

Elster Engineering Co., Inc., Newark, N. J.

Wheel Dressing Diamonds

Mendes Cutting Factories, Inc., 505 Fifth Ave., New York City

Wheels, Grinding

Chicago Wheel & Mfg. Co., M. C. Tool Div., 116 S. Aberdeen St., Chicago, Ill.

Woodworking Machinery

Onsrud Machine Works, Inc., 3960 Palmer St., Chicago, Ill.
Tannewitz Works, Grand Rapids, Mich.

Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted, or For Exchange, set in uniform style, will be published in the Classified Section at the rate of 60 cents a line across the page, each issue, plus $3.00 for name and address. Minimum charge, $6.00. No display permitted.

Write directly to those offering the machines for sale, for prices and full descriptions. If what you seek is not advertised, use the blank enclosed to make known your wants in either new or used machinery and the publisher will pass them along to the advertisers.

FOR SALE BY

C. B. Burns Machinery Co., - 28 N. Clinton St., Chicago, Ill.

100 h. p. Fairbanks Morse oil engine, alternator panel, comp. power plant.
65 h. p. Fairbanks Morse oil engine, type C. O. Marine, with clutch key.
Grinder, Heald rotary.
Milling mch., No. 2 Cincinnati.
Press, No. 6 Amer. Can, 3" stroke.
Shaper, 16" Cincinnati.
Shaper, 24" Gould & Eberhardt.
Surface grinder, 14"x44", mag. chuck.

FOR SALE BY

J. Bleser Mfg. & Machy. Co., 16th & Madison St., Springfield, Ill.

Air comp., 6x6 Ing, Rand 67'
Drill presses, and 7' radial.
Lathe, 36"x18' L. & Shipley. q. c.
Motor, 75 h. p. G. E. and smaller.
Millers, No. 3 Cinti., 3-H LeBlond.
Punch presses, o. b. i. and arch.
Scr. mche., Nos. 2 & 4 W. & Swasey.
Shapers, 29" S. & M., 12"-16". G. E.
Slotter, 13" Bement.
Steam pumps, Deane & Worth.

FOR SALE BY

Segal Machinery Co., - - 810 W. Lake St., Chicago, Ill.

Air compressors, all sizes.
Drill, 5' Dreses, s.p.d., gr. box. $350.
Drill, 4' Bickford s. p. d., gear box.
Grinder, No. 60 Heald internal, cyl.
Lathe, 26x14 Blaisdell, semi q. c. g.
Miller, No. 0 Brown & Sharpe plain.
Shaper, 24" Milwaukee, b.g., sw. v.
Planer, 24x24x6 Pond, and vise.
16x14 and 10x14 Ingersoll-Rand compressors, 600 cu. ft.

FOR SALE BY

Centre Machinery Co., - 249 Centre St., New York, N. Y.

Drill, 3' Carlton sensitive radial.
Engravers, Nos. 1, 1A, 1D Gorton.
Lathe, 16x8' Cisco, taper and chucks.
Miller, No. 3 Kempsmith, all feeds.
Miller, No. 1 B. & S. plain.
Miller, No. 1Y Brown & S. plain.
Planer, 22x22x6' Flather.
Press, No. 50 Toledo arch., 2".
Shaper, 16" Gould & Eberhardt.
Turret, 2x24 J. & L., bar & chking.

FOR SALE BY

E. L. Klauber Machinery Co., 320-22 S. Third St., St. Louis, Mo.

Lathes, 30"x14' Bradford; 22"x12' Lodge & Shipley; 14"x6' Hendey tool room.
Millers, No. 2 Hendey Lincoln; No. 2 Cincinnati plain; No. 3 Burke.
Multiple drills, No. 11 Pratt & Whitney 12 spindle; Gardam 10 spindle.
Presses, hydraulic, 20 and 30 ton, Lourie and Southwark
Screw machines, No. 51-52 National Acme 4 spdl.; Cleveland ⅞" shaft cut-off.
Tappers, ⅞" Rickert-Shafer; 1" St. Louis; No. 2BG Garvin automatic.

FOR SALE BY

United Machinery & Supply Co., 1241 Walton Ave., St. Louis, Mo.

Brake, 9"x12' apron, motor drive.
Brake, 10'x3/16" Ohls, m. d.
Drill, multiple, 10 spindles, No. 2.
Drill sharpener, full set dies.
Lathe, Stark precision, 40 collets.
Nut tapper, 4 spindles.
Saw, Hunter hot, 24", motor drive.
Shear, 7'x¼" capacity.
Stake riveters, 3' and 6'.
Welders, arc, belt drive, 300 amp.

FOR SALE BY

The O'Brien Machinery Co., 113 N. Third St., Philadelphia, Pa.

Angle flaring, Thomas, 8"x8" cap.
Bending roll, 10' H. & J. ½" cap.
Boring mill, 72" Bullard vert. 2 hds.
Boring mill, 3' universal horizontal.
Column facer, 14" Espen-Lucas.
Grinder, 10"x52" Landis, self contained, plain.
Hammer, 800 lb. Erie, steam forging.
Keyseater, No. 2 Baker, 2" cap., belt drive.
Lathe, 27"x12' L. & S. geared head.
Lathe, 42"x28" Fay & Scott b dr.
Lysholm table, 50'x4' complete.
Miller, No. 3 Becker universal, range 30"x10"x18".
Nipple mches. 1¼", 2" & 4" dble. head.
Pipe machines, 2. 4. 6. 8 and 12" belt and motor drive.
Punch, beam, type 1G Clev., 24" bms.
Punch, No. 3 Southwark ¾x¾", mtr.
Shapers, 14, 16, 20 & 24" various makes
Shear, No. 5 H & J s. e., 24" blades.
Slotter, 12" Dill, belt drive, all power feeds.
Surface plate, 36"x68" Brown & S., scraped, new.

FOR SALE BY

Scott-Bansbach Machinery Co., 4607 West 20th St., Chicago, Ill.

Air compressor, Curtis model A, 4½x4½, 8 to 16 cu. ft.	$ 50.
Automatic screw machines, B. & S., No. 00, 0, 2 and 2G	$150. to 475.
Automatic screw machine, Gridley 4 spdl. "F" ¼", 1½", 1¾" and 2½"	$150 to 750.
Automatic screw machines, Gridley 4 sp., Model G, 9/16" & ¾"	200 & 500.
Automatic screw machine, Cleveland Model A & B, ⅝ to 3¼"	$125. to 700.
Bolt cutter, 1" Landis, belt drive	125.
Dieing press, 50 ton, H. & W. complete, Ser. No 484.	1,000.
Drill, Mason h. s. b b., pedestal type, 4 speeds, with motor 220-60-3	100.
Drill, New Albany, h. s., motor drive, 110-60-1	100.
Drill, Avey, h. s., b. b., 14" swing, No. 2 M. T.	100.
Drill, Leland Gifford, h. s., b. b., 14" swing, No. 2 M. T.	125.
Drill, 2 spindle H. & W. h. s., b. b., 16" swing, heavy duty, class B	150.
Drill, 3 spindle, Leland-Gifford 14" swing, h. s., b. b., No. 2 M. T.	350.
Drill, 3 spdl., Leland-G., 20" swing, hs., b. b., 12" travel. 26"x54" table	500.
Drill, 24" Sibley sliding head, b. g. and p. f.	125.
Drill, radial, C. O., No. 50, wall post type, 2½ foot arm, hand feed	125.
Gear cutter, B. & S. No. 3, 26" for spur gears	200.
Gear hobber, No. 00 Pfauter, cap. 8" x6" x10 DP	150.
Grinder, Gardner No. 4 disc, 23" dia. with press and tables, ball brg	200.
Grinder, Ransom disc. 26" diameter with press and tables	150.
Grinder, Heald 8" rotary surface, magnetic chuck, power feed	75.
Hammer, No. 3A High Speed belt drive, heavy duty	180.
Hammer, No. 5A High Speed, motor shelf	275.
Hammer, 300 lb. board drop	250.
Lathe, 13"x6' Hendey, quick change, with 2 chucks,	150.
Lathe, 14"x6' American quick change	225.
Lathe, 15"x6' Sebastian, geared head, quick change	450.
Lathe, 15"x8' Von Wyck, l. c. g., with chuck	75.
Lathe, 16"x6' American, quick change, pan bed and chuck	400.
Lathe, 16x8 Hendey, q. c., taper attachment and chuck	450.
Lathe, 18"x8' Davis, d. b. g., q. c., heavy duty	450.
Lathe, 16"x12' Hamilton, d. b. g., q. c., heavy duty, 2 chucks	475.
Lathe, 30"x13' H. S. & G heavy duty, q. c., d. b. g. 16,000 lbs.	860.
Lathe, sliding gap, 28-48"x12' Harrington, plain change	400.

FOR SALE BY

West Penn Machinery Company

1208 House Building, Pittsburgh, Pa.

Air compressors, 30 to 2500 cu. ft.
Boring mill, 24" Bullard, side head.
Boring mill, 36" Bullard, side head.
Bor. mill, 36"-44" Niles, 2 hds. q.c.g.
Bor. mills, 42" Bullard, 2 heads.
Boring mill, 48" Gisholtr. p.t., 2 hds.
Boring mill, 72" Niles, 2 heads, m.d.
Boring mill, 72" Cin., r. p. t., 2 hds.
Boring mill, 10' Niles, 2 heads, b. d.
Boring mill, horiz. 6½" Niles, fl. type.
Brake, box & pan, 60"x10 ga. D.&K.
Brake, No. 184 Chgo., 8'x10 ga., b.d.
Buffer, Valley b.b., dbl. end., 3 h. p.
Bulldozers, Nos. 2, 4, 6, 9, 28, & 30.
Cranes, Electric Traveling.
Crane, crawler, gas., No. 2 Nor'wes.
Draw bench, 150,000 lb. Stand. m. d.
Drill, radial, 4' Prentice, t. a., b. d.
Drill, radial, 6' Dreses, s. p. d.
Drill, rad., 6' Cin Bickford, m. d.
Drills, upright 10" to 36".
Filing machine, No. 406 Oliver m. d.
Flanger, McCabe, ½" capacity, dies.
Forging mch. 1½" Acme, st. fr. b. d.
Furnace, No. 152 Rockwell rot hard.
Gear cutters, 11", 18" & 24" Gleason.
Gear cutter, spur, D.-S. cap. 2½"x3½".
Gear cutter, spur, 36"x10". Newark.
Grinder, crank, No. 4 A Landis spec.
Grinder, die, No. 101 Br dg., m. d.
Grinder, disc, No. 8—20" Besly, b.d.
Grinders, 8" Black & D., d. e., m. d.
Grinder, rad., 14" M. & D., m. d.
Grinder, surf., Walker 26"x9", mag. ck.
Grinder, surf. 42" Spring, tbl. 18x84".
Grinder, surface, No. 16 Blanchard.
Grinder, surf., Diamond; table 48x16"
Grinder, tool & cut., No. 2 Walker.
Grinder, Univ. No. 2 Brown & S.
Hammer, Blacker, power, 35-lbs.
Hammer, 40-lb. Bradley, cush. helve.
Hammers, Nos. 2-B, 3-B, 4-B, Nazel.
Hammers, steam, 600 lb. to 6000 lbs.
Hammers, stm. dr. 1500 to 10000 lb.
Header, No. 2 Wat. Far., o.d., tr. st.
Ice machines, 40-ton Frick.
Jig borer, Swiss m. d., No. 5.
Lathe, 16"x6' Le Blond, q. c. g., d.b.g.
Lathe, 16"x7' South Bend, q.c.g., m.d.
Lathe, 24"x12' American, q.c.g., b.d.
Lathe, 24"x16' Bridgeford, g.h., m.d.
Lathe, 48"x34' Bridgef'd, g. h., m. d.
Lathe, turret, No. 6 Warner & S.
Lathe, turret, 18" Libby, m. d.
Lathe, turret, 24" Steinle, 6¾" hole.
Lathe, turret, 34" Gisholt, b. d.
Lysholm tables, 72"x30'.
Miller, pl., No. 34 Ohio, tbl. 13½x60".
Miller, pl., Nos. 3 & 5 Cinc., s. p. d.
Miller, pl., No. 5 B hvy. B.&S., s.p.d.
Miller, universal, No. 3 Le Blond.
Miller, univ. Cin. tbl. 56"x13½" m. d.
Motors, a. c. & d. c.

Nut mche., Wat-Far. ⅞" cold. b. d.
Pickler, 4 arm Mesta, 10' radius.
Pipe machine, 2" Landis, belt drive.
Pipe mches., 4", 6" & 8" Oster.
Planer, 30"x30"x10' Woodward & P.
Planer, 48"x48"x18' Cinti., belt drive.
Planer, o.a., 48"x48"x16' D.& H.m.d.
Press, cam, No. 69N Bliss, dbl act. inc.
Press, o.b.i., C-4 Ferra., 3500 lb. m.d.
Press, o.b.i., No. 4 Niag. 3½" st., b. d.
Press, o. b. i. Bliss, Nos. 18, 19, 20.
Press, No 55 Tol. s.s. 2" st. bed. 20x19
Press, No. 57-S Tol. 6" st. bed 32x32.
Presses, Nos. 57, 57½, 58½ Toledo grd.
Presses, trimming, United, m. d.
Press, No. 64 Consol., bed 17x17.
Press, No. 59 Toledo, 8" str., m. d.
Press, hyd., 200-ton Oilgear, 4 post.
Press, hyd., 400-ton Roberton, m. d.
Press, No. 96-A Toledo, d. c. 5" str.
Press, No. 6 Bliss dbl. crank, 6" str.
Press, screw, No. 87 Niagara.
Press, wheel, 200-ton Elmes.
Punch, hand, Shatz, bar and ang.
Punch & s., No. 6 L. & A. ⅜" thru ⅝".
Punch, EF Cleveland, 36" thrt., 1½"-1⅝"
Punch, mult., No. 8 H. & J. 10".
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Riveter, No. 120 Giant, cap. ⅞", m. d.
Roll, bend 50" Bertsch, 3/16" init type
Roller, thread, Nos. 10, 30, 40 W.-F.
Saw, co'd, No. 6 Coch.-Bly, s. p. d.
Saw, cold 48" Newton, m. d.
Saws, friction, Nos. 2, 3 & 4 Ryerson.
Saw, hack, 4"x4" Racine Jr., m. d.
Saw, hack, No. 4 Robertson, 8"x8".
Scale, sheet bundling, 2500 lbs.
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Shaper, vert., Jones 10" stroke, m. d.
Shapers, 16", 20", 24" & 36" G. & E.
Shaper, 24" Flather, b. g., m. d.
Shears, alligator, 1½", 2", 3" & 4".
Shear, angle, 6"x6"x1" H. & J.
Shear, bevel, Lennox ⅜", b. d.
Shear, circle, No. 13 Niagara, b. d.
Shears, foot, 30" and 36" Pexto.
Shear, sq. No. 196-F Nia 8'x18 ga.
Shear, guil. No 5 H. & J. 4"sq., m.d.
Shear, rot., 30" Quick, cap. 3-16" b d.
Shear, square 8'x14 ga., Ohl. b. d.
Shear, 10' Nia. cap 10 ga. 12" gap b.d.
Shear, sq., 132"x16 ga. Canton, h. d.
Sheet oiler, Rolls 30"x4", m. d.
Slotters, 6" Newton, 8" & 21" Betts.
Straightner, 72" Newbold, 9 roll m. d.
Straightners, 1", 1½", 4" rd. Abramson.
Straitner, No. 2 K.&R., 7-r., cap. 1½".
Tapping machine, vertical 4" Baker.
Testing mch., Brinnell hard., type A.
Upsetters, 1" to 6".
Welder, butt, Tay.-Winf., ⅜" cap.
Welder, spot, 13 KVA Taylor-W. 10"
Welder, spot, 40 k.w. T.-G., 2 pcs. ⅜".

FOR SALE BY

McDonald Machinery Co., 1535 N. Broadway, St. Louis, Mo.

Bolt mchs., Landis & Acme 1½".
Boring mill, Lucas No. 21 horizontal.
Brake, D. & K. 6' 10 ga., pwr. leaf.
Brake, Ohl 8' 10 ga. power press.
Drills, Cin-Bickford 3' & 3½' radials.
Drill, Sipp 4-sp., h. s., b. b. pwr. fd.
Gear hobber, G. & E. 24".
Grinders, B. & S. No. 2 surf. & univ
Grinder, P. & W. 14" vert. surf.
Ironworkers, Buffalo No. 0 univ.
Keyseaters, M. & M. No. 2.
Lathes, F. & M. 60"x26' bed; LeBlond 21"x18', q. c. g.: 50 others in stock.
Milling machines, B. & S. No. 5, vert.
Milling mches., B. & S. No. 1½ Cinc. No. 1½, Hendey No. 1-B, Kemp. No. 3; Ohio No. 29; vertical slott. attch., all universal; Kemp. No. 1, LeBlond No. 3-H.; Brown & S. No. 3-B, s. p. d., Brown & Sharpe No. 3, all plain, Cincinnati 12" Mfg.; Cin. No. 2 s. p. d. hi-duty pl.
Punch press, d. c. grd., 79" between uprights, 5" stroke, wt. 38,000 lbs.
Screw machines, Foster No. 5, gr. hd.
Shapers, G. & E. S. & M., Cin., Ohio, American, Steptoe, Queen City, 12", 16", 18", 20", 24" and 26".
Square shears, Bertsch 10' 16-ga.
Turret lathes, W. & S. No. 2A univ.
Turret lathes, Libby 18" geared head universal, Gisholt univ.

FOR SALE BY

The Jones Machine Tool Co., Front & Pike Sts., Cincinnati, Ohio

Band saw, No. 8 Marvel, mtr. dr.
Bolt cutter, 1½" Landis, single spdl.
Bolt cutter, 1½" Landis, dbl. spdl.
Drill, No. 14 Colburn heavy duty.
Gear cutter, No. 13 B. & S., bevel & sp.
Gear hobber, No. 12 Barber-Colman.
Grinder, No. 1 Diamond surf. 12x24"
Grinders, disc, various sizes.
Hack saws, 6x6 & 13x16 Peerless.
Keyseater, No. 1 Baker.
Lathe, 27"x16' American grd. head.
Lathes, shapers & planers, all sizes.
Milling machine, No. 2 B. & S. univ.
Milling mche., No. 3 LeBlond univ.
Radial drill, 5' Am. s. p. d., enc. hd.
Rail drill, 10' Andrews 16-sp., ⅞" cap.
Square shear, 50" Huntington, ½" c.
Square shear, 60" Bertsch, 10 gauge.
Square shear, 10'-3/16" cap.
Shears, No. 542 Niagara, 16 ga.: 60" Yoder, rot., 16 ga.: 18" Southwark rot., 7 ga.; 37" Tol. 16 ga. 15" gap.
Upsetters, 2" Ajax, belt drive.

PRESSES

No. 25 Niagara arch press.
No. 91 B Toledo 32" dbl. crank grd.
No. 164 Consolidated 36" dbl. cr. grd.
No. 5 Federal, o. b. i., b. g., 7" str.
No. 43 Robinson 46" dbl. crank, grd.
No. 77 Toledo, b. g. gap press.
50 o. b. inc. presses—various sizes.

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Brown Machinery Co., 2333 N. 9th St., St. Louis, Mo.

Brake, 8' 16 ga. Whitney-Jen., new.
Broach, No. 1 LaPointe, sgl. spdl.
Drills: 24", 26" and 32"; No. 66-D Moline 4-spindle Hole Hog.
Drill, Allen B., single spindle, m. d.
Drill, Demco b. b., m. d.
Grinders: No. 6 Besly dbl. spindle; No. 220 Badger auto. disc; 12x30" Modern, plain, s. c. c. a.; 8" Heald; No. 1 LaSalle; P. & W. 36" vertical surface.
Groover, power, 6' horn.
Lathes, 30" Blaisdell, 28" Harrington gap, ext. bed; 26" Putnam, taper att., 18" & 16" Lodge & Shipley; 16" & 14" Monarch; 7"x6' Lo-swing; No. 4 Wood Tilted Turret.
Millers: No. 2 Hendey-Norton, univ.; No. 3½ Fox; No. 4 Hendey Lincoln; American No. 1½ plain.
Planer, 42x42x10 Pond.
Press, No. 7 Zeh & Hahneman, Nos. 1, 3, 4 Loshbough-Jordan.
Punch, Cleveland C ⅝ in ⅞"; Rock River Style L ⅝ in ⅞".
Punch & shear, No. 9C Beloit, ⅝ in ⅞".
Punch & shear, L. & A. ½" cap.
Riveter, No. 5A High Speed, ¼".
Shaper, 24" Ohio; 20" Queen City.
Shaper, 20" Columbia.
Shear, 62" underdriven, cap. 10 ga.
Shear, ½" Lennox bevel.
Threaders: ⅞" Geometric; National 1½" double head and single head.
Upsetter, 3" Ajax, steel bed.
Welder, 20 k. w. Agnew.

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Drill press, 22" Barnes upr., grd.
Grinders, tool.
Mill, No. 3A Cincinnati universal.
Press, No. 78 Toledo geared, m. d.
Presses, o. b. i., Nos. 1 to 6.
Saw, power, No. 4B Cochrane-Bly.
Saw, power, 6x6 Racine, h. s.

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Marr-Galbreath Machinery Co., 55 Water St., Pittsburgh, Pa.

Quality Not Reflected in These Low Prices.

Air comp., gas dr., 285 cu. ft.
Boring mill, No. 0 G. & L., 3½" bar.
Boring mill, 30" Colburn, tr. hd.
Boring, mill, 36"-44" N-B-P., sh.m.d.
Brake, steel, Chgo. 8'x14 ga. b. d.
Brake Keene toggle, 10'x20 ga.
Die sinker, No. 3 P. & W., r. t.
Drill, 26" Rockford, tap. att.
Drill, 20" Barnes, all geared.
Engine, gas, 55 h. p. West. vert.
Engine, Diesel 166 h.p. DeLaVergne
Engine, Diesel, 120 h. p. vert. 4-cyl.
Folder, 36" Niagara, open throat.
Furnace, gas tempering, 10x10", pot.
Gear cutter, 18" Newark.
Gear cutter, (Pinion) 1x1" S. & C.
Generator, 125 k. v. a. 3/60/220/900.
Generator, 50 k. v. a. 3/60/220/1200.
Grinder univ. t. & c. No. 2 Grn'fd
Hack saws, No. 5 Marvel, auto. fd. (2)
Hack saw, 6x6" Milford, m. d.
Hammer, 30 lb. United, power.
Hammer, 40 lb. Bradley, helve.
Hammer, 125 lb. Beaudry power.
Hammer, 200 lb. Bradley helve.
Hammer, No. 2B & No. 4 B Nazel, motor drive.
Hammer, 1500, 2000, 2500, 4500, s. f. steam.
Hammer, 800 lb. Erie s. f. steam.
Hammer, 1000 lb Chbg. steam drop.
Header, cold ¾" Waterbury-F.
Keyseater, 24"x2½" Morton.
Lathe, 26"x12' Bridgeford, t. a.
Lathe, 26"x16' Bridgeford g.h., t. a.
Lathe, 26/48"x9' centers, McCabe.
Lathe, 20"x8' Hendey, t. a.
Lathe, 20"x10' Hendey, t. a.
Lathe, 20"x10' American gd. hd.
Lathe, 14"x19" Fay automatic.
Magnetic chuck, 14"x40" Heald.
Miller, univ., No. 3 Kempsmith, V. & I. heads.
Miller, universal No. 1½ Becker.
Miller, plain, No. 2 heavy Ohio.
Miller, No. 4 Ohio, table 101".
Miller, plain No. 2-B Milw. m. d.
Miller, plain No. 3 Cincinnati.
Milling & keyway att., No. 5 So. B.
Pipe machine, 8" Jarecki.
Pipe machine, 6" Oster g. b., m. d.
Planer, 30x30"x10' W.-P. 2-heads.
Press, No. 1 Manly arbor.
Press, Arch, No. 3A Mossberg.
Press, Arch, No. 3A Mossberg dial feed.
Press, Arch No. 3-A Mossberg roll feed.
Press, D.C. No. 138A Stoll, 3" stroke.
Press, embossing 50-ton Ferracute.
Press, horn, No. 2 Michigan.
Press, horn, 42-h.p. Toledo.
Presses, o. b i. No. 4 Toledo.
Press, o. b. i., No. 3 Niagara.
Press, o. b. i., No. 4 Niagara.
Press, o. b. i., No. 18 Bliss, (3).
Press, o. b. i., No. 21 Bliss.
Press, screw, No. 87 Niagara.
Press, S. S. No. 74½ S Bliss s. c.
Press, S. S. No. 76½ Bliss, 10" str.
Press, Wheel, 60-ton, 34" W-S.
Punch & shear, Pels tr. comb., 1"x½".
Punch & shear, No. 52 Beloit.
Punch & shear, s. e., No. 6 L. & A.
Punch & shear, s. e., No. 4 L. & A.
Punch & shear, d. c., cap. 1½"x1".
Punch, gang, 48"/40 tons.
Rolls, 10'x3" U. S. Forming.
Saw, Cold, Espen-Lucas, 7" rds.
Shapers, 16" G. & E., "H. D." m. d.
Shaper, 24" G. & E. "H. D." for motor drive.
Shaper, 20" Cincinnati, motor dr.
Shaper, 20" G. & E., "H-D". m. d.
Shaper, 21" Smith & Mills.
Shaper, 24" P. & J. "RT." m. d.
Shear, Schatz combined, 219 FA.
Shear, slitting, No. 24-S Buffalo.
Shear, gap, 42"x4"x18" gap.
Shear, squaring, 10'x16 ga. Obl.
Slotter, Garvin, die, 12" R. T.
Tapping chuck-, 3/16"; ½" and 2".
Testing mach., 100-ton Olsen, comp.
Testing machine, Cement. Pull.
Turret, No. 4 W. & S. power feed to turret.
Turret, 2"x24" J. & L., chuck.
Turret, lathe 24" Gisholt, 6½" head, motor drive.
Welder, arc, 200 amp. Lincoln, 3/16.

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Pattern maker's lathe, ball bearing, 16"x9' 4" between centers, power feed carriage, belt or motor drive. Also saw tables, jointers, planers, band saws and other woodworking machinery.

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Drill, radial, 3½' American, s. p. d.
Lathe, 18"x8' Monarch, motor in leg.
Lathe, 16"x8' American, motor in leg
Lathes, 13" & 18" South Bend, m. d.
Miller, No. 2 BS, K. & T., pl. dbl o.a.
Miller, No. 3 Cincinnati Universal.
Miller, No. 2 Van Norman, comp.
Planer, 30"x30"x8' Cleveland, O. S.
Planer, 52"x48"x12' Cleveland, 3 hds.
Press, No. 102 Consolidated, dbl. cr.
Shear, 8' 10 ga. Niagara.
Wheel press, N. B. P., 400 ton.

FOR SALE BY

The Elyria Belting & Machinery Co.,

Corner Williams and Buckeye Streets, - Elyria, Ohio

Air compressors, 10x10 Ingersoll-Rand, 250 cu. ft.; 9x8 Ingersoll-Rand, 173 cu. ft.; 6x6 Ingersoll-Rand, 67 cu. ft.
Bolt cutter and threader, Acme.
Boring mill, 42" Bullard vertical.
Bulldozers, Nos. 3 and 5 Williams & White.
Crane, electric, P. & H. 3 ton, 32 ft. span, floor-operated, equipped with direct current motors.
Drills, Nos. 2 & 4 Colburn heavy duty manufacturing.
Hoist, No. 0 frame, American Electric 1 ton, with a. c. motors.

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Wigglesworth Machinery Company

199 Bent Street, - - - - Cambridge, Mass.

Boring mill, 24" Bullard, New Era.
Boring mill, 36" Bullard, New Era.
Boring mill, No. 32 Lucas.
Drill, 5' American universal.
Gear hobber, Mikron.
Grinder, 18x96" Norton plain.
Grinder, 20"x168" Landis plain.
Grinder, Pratt & W. 14", model B.
Lathe, 25"-28"x24' Le Blond, gd. hd.
Lathe, 30"x15' Niles-Bement-Pond.
Miller, No. 3 Cin. h. p. universal.
Miller, 3B heavy Brown & Sharpe.
Jones & Lamson, 2 spdl. like new.
Shear, combination, Schatz.
Turret lathe, No. 6 Warner & S.

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Reliance Machinery Sales Company

1405 Brighton Road, N. S. - - - - Pittsburgh, Pa.

Boring mill, 42" King vert. a.c. m.d.
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Drill, 4 spindle No 4 Colburn.
Drill, radial, 2½' Mueller, s. p. d.
Lathe, 48"x20' Betts Bridge., m. d.
Miller, vert., No. 5-C Becker.
Presses, Nos. 3½ & 4 Toledo, o. b. i.
Press, No. 19 Bliss, dial feed.
Press, trimming, No. 74½ Bliss, flyw.
Punch, L&A sgl. 24" tht. 1"x1", ar. jaw.
Saw, 12"x12" Racine hack.
Seamer, No. 3 Swaine, double.
Shapers, 16" to 32", belt and m. d.
Shear, Marshalltown throatless, ⅜".
Shear, 8'x16 ga. Bertsch squaring.
Shear, 11'x18 ga. Canton squaring.
Shear, allig., Canton Steel, 4"x4".
Shear, allig., Canton, 1½" sq. m. d.

Forging hammers, Trimming presses, etc.

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Herben Machinery Equipment Co., 28-30 S. Clinton St., Chicago, Ill.

Brake, 3', 16 ga. 8' 16 ga. D & K.
Ironworker, No. 10 Pels, 4x4x¼" ang.
Lathes, 20x10 R. & L. q. c. g., 20x12 Hendey q. c. g., t. a., Sidney 20x8, Lodge & Shipley 14"x8' q. c. g., South Bend 9"x3'.
Millers, No. 2 LeBlond, No. 1 Kemp. No. 3 Kemp. univ. No. 3 Brown & Sharpe, No. 5B Becker vertical.
Saw, No. 8 Marvel 18"x18".
Presses, Nos. 93 & 94 Bliss, No. 2 Ferracute o. b. i. $115.
Shears, power, 5' 16 ga. 15" gap Niagara 36" 14 ga.; foot power, 30", 36", 62", 96".
Screw mchs., auto.: 00 B. & S., No. 52 Acme 5 spdl. Davenport, hand; 1" Milholland, No. 0 Foster, No. 2 Foster, Fox type univ. 1000 parts and collets.

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Geo. M. Bernstein & Co., - 14 S. Clinton St., Chicago, Ill.

Boring mill, 2½" Cleveland horiz.
Boring mill, 42" Baush vertical.
Die filers, Nos. 5 & 6 Rearwin.
Drill, No. 2 Avey h. s. b. b.
Drill, 4 spindle Avey h. s. b. b.
Drills, 20" to 42" Barnes, sldg. head, b. g., p. f., tapping attachment.
Grinder, No. 13 B & S. universal.
Keyseater, No. 2 Davis, 16 cutters.
Lathe, 14"x6' Monarch qcg. taper att.
Lathe, 15"x8' C. & J. q. c. g. chucks.
Lathe, 32"x16' S. & B. qcg. chucks.
Lathe, 16"x10" Mill. turret.
Miller, No. 1 Brown & Sharpe plain.
Miller, No. 1 Bickford hand, pwr. fd.
Miller, No. 1½A Rockford plain.
Miller, No. 4 Burke hand, pwr. fd.
Miller, 4½x12" Pratt & W. thread.
Miller, No. 5 Ingersoll, vert. & hor.
Shear, 6'x14 ga. L. & N. square.
Screw mach., 2 & 4½" Clev. auto. "A"
Shaper, 12" Smith & Mills, crank.
Shaper, 18" Barber & Chard, crank.
Tapper, No. 2 Garvin automatic.

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Harvey H. Goldman, - - 9040 W. Jefferson Ave., Detroit, Mich.

Automatics, Gisholt Simplim., m. d.
Automatics, 1¾x7" New Britain.
Bolt cutter, Landis 2 spdl. 1¼", m. d.
Compressor, Bury 8"x4"x6", 250 lb. pressure, complete.
Drill, 4 spin. Allen No. 2.
Drill, 2 spin. Avey No. 1.
Drill, sgl. spin. Avey No. 3, h. s., b. b.
Drill, 4 spin. Avey No. 2, 8" o. h.
Drill, 4 spin. Avey No. 2, 12" o. h.
Drills, 3 spin. Avey No. 2, 8" o. h.
Drill, 3 spin. Edlund No. 2B.
Drill, 2 spin. Henry & Wright p. f., 12" o. h.
Grinder, No. 12 Bryant double spin. m. d., like new.
Grinder, No. 2 B. & S. surface.
Grinder, No. 2 Gardner disc, m. d.
Grinder, No. 10 Brown & S., m. d.
Grinder, No. 65 Heald cyl. & jig.
Header, National 1", motor drive.
Lathe, turret No. 4 Millholland univ.
Lathe, Sidney Monotrol, roller bearing spindle, m. d.
Lathe, Hendey 16"x8'.
Miller, Cincinnati, 18" prod., m. d.
Miller, No. 2 Craftsman cont. prod.
Polishers, No. 3 Gardner, (7).
Presses, No. 68B Niagara.
Presses, No. 14 Adriance cam.
Presses, No C-13 Ferracute, o. b. i.
Presses, No. 2 Loshbough, J., m. d.
Press, No. 21 Consolidated, adj. bed.
Presses, No. 22 Consolidated, m. d.
Presses, hydraulic 1400 ton, m. d.
Punch & sh., dbl. end, Kling 1"x1".
Shear, 6' Bertsch ⅜" cap, 18" gap, m. d.
Shear, No. 16-A Niagara rotary, md.
Shear, No. 362 Pexto, 62"x10ga., m. d.
Tappers, No. 2BG Garvin, m. d.
Welder, 12 k. v. a. Am. Elec. Fusion

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Drill, ISS Garvin duplex, 2½" cap.
Grinder, 10"x36" Norton.
Grinder, No. 10 B. & S. ext.
Hobbers, Nos. 3, 12-B & C.
Lathe, No. 9 LeBlond multi-cut.
Lathe, 18" Libby H. D., turret.
Millers, Nos. 0-Y & 2 Brown & S.
Radial drill, 4' American sensitive.
Turret lathe, Nos. 2 & 6 Warner & S.

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Brownell Machinery Co., 150 Pine St., Providence, R. I.

Grinder, No. 2 Morse universal.
Hammer, No. 5 Beaudry pwr. for'g.
Lathe. 60"x30' L. W. Pond heavy.
Lathes, 12"x6' Lodge & S., in pan.
Lathe, 32"x28' New Haven,
Miller, No. 4 Cincinnati vertical.
Miller, No. 2-B B. & S. plain cone.
Millers, No. 1 Brown & S. plain.
Planer, 17"x17"x4' Whitcomb.
Planer, 24"x24"x6' Whitcomb.
Press, 75 ton Bliss knuckle joint embossing.
Rolling mill, 12"x20" Standard.
Swaging machine, No. 4 Dayton.
Screw mche., National Acme "B' 3-5/16".
Screw machines, No. 4 and No. 6 Brown & Sharpe hand.
Wood planer, 30" Whitney d.s.d.b. surface.

FOR SALE BY

Midwest Equipment Co., 628-30 W. Lake St., Chicago, Ill.

Air compressor, 9x8, I. R. compl.
Air compressor 19x12x16, I. R. compl.
Grinder, universal, B. & S., No. 2.
Grinder, No. 2 B. & S. surface.
Grinder, No. 6 Gardner, b.b., 26" discs.
Grinder, Cinc. No. 1 tool & cutter.
Hack saw, Napier, pwr., 10x10" cap.
Hoists, 2-ton Shepard, electric, a. c.
Lathe, 17x8 Sidney, l.c.g., complete.
Lathe, 16x8 Hendy, q. c. g., tap. att.
Lathe, 14x6 Sidney, quick ch. gear.
Lathe, 34x10 Wolcott, q. c. g., comp.
Lathes, Stark ⅝" & ¾" cap. with col.
Miller, No. 5 B. & S., plain.
Miller, No. 1 Kempsmith pl., comp.
Miller, Kempsmith No. 4 with vertical attachment.
Miller, No. 1½ Rockford, plain.
Miller, No. 2 Becker, vertical.
Radial drill, 3' Cincinnati Bickford.
Screw machines, No. 2 B. & S. automatic with slotting attachment.
Screw machines No. 00 and No. 0 Brown & Sharpe. automatic.
Screw machines, No. 4 Warner & S.
Screw mchs., Nos. 4 & 3 Foster, w. f.
Shapers, 14", 16", 20" and 24".
Shear, Quickwork, pwr. dri. 14 ga. cap.
Shear, Beloit No. 52.
Welder, arc. 300 amp. Wilson, m. d.

Planers, Lathes, Screw Machines, Air Compressors, Woodworking Machines.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,
1211-1223 Hadley Street. St. Louis, Mo.

Air compressor, 12"x10' Chgo., belted
Bar shear, 8"x¼".
Bolt threaders, 1" & 1½" Landis.
Boring mills, 36", 42", 60" & 72".
Bulldozers, No. 3 and No. 4.
Drill, 1 spindle Avey.
Drill, 6' arm American radial.
Grinder, 12"x60" Landis universal.
Grinder, 12"x36" Thompson univ.
Grinder, 24"x96" Landis cylinder.
Grinder, No. 60 Heald cylinder.
Hammer, No. 3B Nazel.
Lathe, 16"x7' P. & W., geared head.
Lathe, 16"x9' Lehman.
Lathe, 24"x12' Schumacher & Boye.
Lathe, 36"x15' American, q. c. g.
Lathe, 18"x12' South Bend.
Miller, No. 2 Cincinnati, plain.
Miller, Ingersoll slab, 27"x23"x14' bed, 4 heads, motor drive.
Pipe machines, 4", 8", 12" & 16".
Planer, 60"x48"x10' Gray.
Press, No. 24 Toledo cam drawing.
Press, No. 59 Niagara grd. tie rod.
Press, No. 723 Toledo cam drawing.
Punch, No. 14 W. W., 12" throat.
Punch, two 20" throats, cap. 1" in 1".
Sand slinger, Beardsley & Piper.
Shapers, 16" & 26" Smith & Mills.
Shear, circle, No. 310 Niag. 48" thr.
Turret lathe, No. 3A W. & S., 8" hole, motor drive; No. 2A W. S.

High Grade Machine Tools

Lathes

28"x48' Harrington, Sliding Bed.
48"x34' Bridgeford S. P. D. Grd. Hd.
30"x18' American Cone High Duty.
3½"x12' B & E. 3 S. C. D., D.B G.
20"x10' American Grd. Hd. S. P. D.
24"x22' Bradford, Q. C., 3 S. C. D.
36"x16' Lodge & S. Sel. Grd. Hd.
30"x10' L. & S. Patent Head.
30"x12' L. & S. Sel. Grd. Hd., M.D.
30"x14' L. & S., 3 S C D., D.B.G.
24"x12' L. & S. Patent Grd. H.S.P.D.
21"x10' LeBlond, Geared Head.
20"x16' American, Geared Head.
21"x10' LeBlond Geared Head.
20"x8' Am. Grd. Hd., M. D., late t.
20-30"x7' Monarch Helical G.H.Gap

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16"x72" Landis Plain, Self Cont.
16"x48" Landis Crankshaft.
No. 4A Landis Special, Auto. Crank.
16"x48" & 72" Landis Crankshaft.
Type A Production Abrasive Finishing
Nos. 50, 55, 60, 65 and 70 Healds.
6"x18" Landis Plain, Self Contained.
10"x52" Landis Plain, Self Con.
Rivett Internal Grinder.
No. 2 Brown & Sharpe Surface.

Gear Cutters

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No. 615 Fellows.
36BM Gould & E. Gear Rougher.
No. 3, 26" Brown & S. Gear Cutter.
No. 4, 48" Brown & Sharpe.
Nos. 1, 2, 4 Adams Farwell Gear Hb.
18-H Gould & Eberhardt Hobber.
24H G. & E. Hobber.
6", 11", 18" Gleason Gear Generators.

Bolt and Pipe Threaders

1½" Landis Sgl.-Sp., Grd. Hd. m. d.
1" Acme Class "A" Single-Spindle.
1½" Acme Model A.
2" Landis Double-Spindle.
18" Landis Pipe Threader.

Boring Mills

84" Cincinnati Rapid Production.
72" Cincinnati Rapid Production.
24"; 36" and 42" Bullard "New Era" A. C. motor drive.
60" Niles Boring Mill, 2 heads.

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No. 2 LeBlond H. D. Universal.
No. 2 Rockford Universal, complete.
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No. 3 Cincinnati Pl. Hi-Pwr., S.P.D.
No. 3-B Milwaukee Pl., Dbl O. A.
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No. 3 Cincinnati Vert. H. P., S.P.D.
Nos. 2 and 3 Cincinnati High Power Plain. S. P. D. flange nose.
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5" Pratt & Whitney Automatic.
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No. 1 Knight Miller and Driller.
4½x12 Pratt & Whitney Thread Miller
No. 3 & 3-E Lees-B. Thread Millers.
42"x36"x10' Ingersoll Adj. Rl. 4 Hds.

Planers

24"x24"x8' Gray Planer.
42"x42"x12' Detrick & H. Openside.
30"x36"x11' Cincinnati, late type.
30"x24"x11' Detrick & H. Openside.
36"x36"x10' Gray, 2 heads.

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2½, 3, 3½, 6' Cinci.-Bick. S. P. D.
3, 3½, 4 American Trip. Pur. S.P.D.
3' Bickford Plain, S. P. D.
4' Heavy Duty Fosdick, S. P. D.
6' American Triple Purpose, S. P. D.
No. 2 Colburn Mfg. H. D. 2-spindle.
No. 40 Natco Straight Line Multi.

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16", 20", 24" G. & E., mtr. dr. thru g. b.
16", 20" and 24" G. & E., cone drive.
20" Steptoe, S. P. D.
24" Potter-Johnson M.D. thru gear box

Miscellaneous

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80lb Bradley Cushion Helve Hammer
High Speed Riveting Hammers.
Nos. 1& 3 Baker Keyseating Mches.
No. 2 Mitts & Merrill Keyseater.
Nos. 1 & 2 Davis Keyseaters.
V-18 Amer. Vert. Broaching Mche.
15, 30 & 50 Ton Lucas Forcing Pr.
56 Adriance Geared Press.
No. 50 Toledo Arch Press, 10" stroke.
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No. 1 & 2-X Garvin Tapping Mches.
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Modern Machine Tools

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No. 2A, 3A Warner & Swasey Universal, chucking.
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No. 6, 9 LeBlond Multi-Cut.
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9x12", 9x24" Sundstrand Mfg.
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40" Maag, belt.
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No. 18H Gould & Eberhardt s. p. d.
No. 3, 4, 13, 13H Brown & Sharpe.
No. 7, 715 Fellows High Speed.
No. 61, 612, 615 Fellows.
6", 11", 18" Gleason Bevel Gear Generators.
15" Gleason Cutter Grinder.
No. 3—26" Cincinnati.
12", 30" Ingle Gear Tooth Rounders.

DRILLS

1, 2, 4, 6 spindle Allen b. b.
1, 2, 4, 6 spindle Avey b. b.
6 spindle No. 3 Avey b. b.
1, 3, 4 spindle Colburn h. d. Mfg.
4 spindle Leland & Gifford b. b., m. d.
2, 3, 4 spindle Henry & Wright.
3 spindle Sipp.
5' Amer. tri. p. pl., radial m. d. thru g. b.
3½', 5', 6' Cinc. Bickford gear box.
4' Fosdick, gear box.
4' Dresses, gear box.
7' Fosdick, cone.
21", 24" 28", 36" Cin.-Bick. Upright.
D2, D3, D4, D6 Colburn h. d. Up.
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36"x84" Diamond Face, oilgear table drive, 3 motor drive, late.
No. 2 Diamond Auto. Surface, belt.
Heald Gaugematic No. 72A3 2 m. d.
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6x32", 10x36" 10x50" Norton Plain Cylindrical, motor drive.
6x10", 10x36", 12x52", 16x52", Landis Pl. Cyl., self-contained type.
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No. 2, 3 W. & M. Auto. Sur., belt.
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14"x6' American Grd Hd., m. d taper
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23"x10' LeBlond, Geared Hd., taper
24"x14' Lodge & Shipley m. d., taper
24"x10' American Grd. Head, m. d.
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30"x14' Lodge & Shipley, cone,
30"x12' American Grd. Head, m. d.
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No. 2B, 3B Milwaukee Plain, m. d.
No. 1½, 2, 3 Brown & S. Plain, cone.
No. 1½, 2, 3, 4 Cinc. Plain, cone.
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18", 24", 48" Cincinnati Plain Automatic, s. p. d.
24" Cincinnati Auto. Duplex, m. d.,
No. 13B Brown & S. Plain, latest.
No. 3V Toledo Vertical, s. p. d.
Becker Vertical Continuous, belt.

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42" KING, M. D., I side head.
36", 42" BULLARD "New Era"
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10' NILES, belt drive.

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6" & 18" GLEASON Bevel Gear.

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10"x24", 36", 50" NORTON.
10"x72", 10"x96" NORTON.
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15"x15"x72" NORTON, o. s.

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18"-20½"x8' AMERICAN G. H.
20"-22½"x8', 12' L. & S. Sel. G. H.
24"-27½"x12', 18' L. & S. Sel. G. H.
36"-40½"x14', 22' L. & S. Sel. G. H.
66"x21', 36' PUTNAM T.G..M.D.

MILLERS (Thread)
4½"x12" PRATT & WHITNEY.
6"x14", 6"x48", 6"x80" P. & W.
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Nos. 2 & 3 CINN. H. P., S. P. D.
No. 3-B, No. 4-B MILW., S. P. D.
Nos. 4 & 5 CINN. H. P., S. P. D.

MILLERS (Univ.)
No. 1-B MILWAUKEE, S. P. D.
No. 2 BROWN & SHARPE.
No. 3 GS HENDEY, S. P. D.
Nos. 3, 4 CINN. H. P., S. P. D.

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24"x24"x12' INGERSOLL Slab.

PLANERS
24"x24"x12' GRAY.
26" LYND-FAR, Open-Side.
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56"x56"x32' CINCINNATI.
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No. 545½—55" HAMILTON.
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H. & W. 50-ton Dieing Machine.

SHAPERS
24" GOULD & EBERH'T, s.p.d.
24" CIN., Climax, s.p.d. auto. lub.

TURRET LATHES
No 2 W. & S., Screw, M. D.
No. 4 W. & S., Screw, M. D.
No. 4—1-9/16" B. & S. Screw.
Nos. 1A & 2A W. & S. Univ. Tur.
Nos. 3A & 4A W. & S. Univ. Tur.
18"—2-9/16" LIBBY, motor drive.
26"—7½" LIBBY. Inter. Turret.
No. 4-L 9½" GISHOLT Turret.

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Miles' Tools Are Rebuilt, Tested Under Power And Fully Guaranteed

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Nos. 7, 75 & 715 Fellows high speed.
No. 6 Fellows gear shaper.
No. 12 Barber Colman hobber.
No. 18H & 24H G. & E. hobbers.
14" No. 5A Lees Bradner hobber.
36" & 48" Brown & Sharpe auto.
No. 2 Bilton gear miller.
8" Gleason bevel generator.
15" Gleason cutter grinder.
Gleason quenching press.

TURRET LATHES

24" & 34" Bullard New Era.
24" Bullard Rapid Prod.
Nos. 4 & 6 Warner Swasey.
4½", No. 3A Warner Swasey.
1½" & 3½" Cincinnati Acme.
Nos. 2, 3 & 4 Foster.
1" & 1½" Milholland.
21" & 24" Gisholt.
18" Libby.
2½"x28" Pratt & Whitney.
1½"x6" No. 2SP Garvin.
1½", No. 4 Bardons & Oliver.
18"x6' Springfield Fox.
1 5/16", No. 3 Stecher.
2½"x26" Greenlee.
2½"x24" Jones & Lamson.
2 spindle Jones & Lamson.

BORING MILLS, VERTICAL

24" & 34" Bullard side head.
34" Colburn single turret.
36" Niles.
42" Detrick & Harvey.
52" King.
62" King.
84" Niles.
100" Betts.

MILLERS, PRODUCTION AND MISCELLANEOUS

24" & 48" Cincinnati Automatic.
24" & 28" Cincinnati duplex.
No. 13B Brown & Sharpe Mfg.
30" Ingersoll 2 spindle rotary.
48" Ohio tilted offset.
48" Newton continuous rotary.
No. 2 M Potter & Johnston auto.
Kent Owens semi-automatic.
26"x24"x6' Ingersoll adj. rail.
48"x48"x8' Beaman & Smith.
Trundle thread miller.
6"x14" Pratt & Whitney thread.
6"x48" Pratt & Whitney thread.
37" & 42" Briggs, type B.
No. 7 Becker, Lincoln type.
Hand Millers, all makes.

SHAPERS

15" & 24" Potter & Johnston.
16" Smith & Mills, s. p. d.
16" Kelly.
16" & 20" Milwaukee.
20" Steptoe.
20" & 24" Gould & Eberhardt.
24" American, single pulley drive.
26" Lynd Farquhar openside.
28" Columbia.
32" Walcott.

THREADERS

½" Webster & Perks 2 spindle.
¾" Acme 2 spindle.
¾" & 1½" Geometric.
1" H. & G. (Eastern).
1" Foote Burt 2 spindle.
1" & 1½" Landis single.
1" & 2" Landis double.
1½", 2½" & 3" Acme single.

WELDERS

⅜" Vollans butt.
200 & 300 amp. Zeus arc.
175 amp. Westinghouse arc.
10 KVA Winfield spot, 12" reach.
10 KW Toledo spot, 9" reach.
10 KW Toledo spot, 15½" reach.
15 KW Federal Automatic spot.
20 KVA Taylor 11" to 18" reach.
20 KW Toledo, 15" reach.
20 KW Toledo, 39" reach.
47 KVA Taylor, 36" reach.

MISCELLANEOUS

⅛" Cone automatics.
10"x36" Norton BA grinder.
30", No. 16 Blanchard grinder.
20"x8' American grd. head lathe.
No. 6 Adriance O. B. I. press.
30" Betts slotter, m. d., p. r. t.

1500 Tools in Stock. Send for List.

MILES MACHINERY COMPANY

Saginaw W. S., Mich.

Drills

6 spindle Leland Gifford, all p. f.
6, 4, 3, 2-sp. Allen, Avey & H. & W.
Nos. 1, 2 & 3 Bausch multiple.
Nos. 11, 12 & 13 Natco & P. & W. mult.
2', 3', 4', 6' Amer. rad., 1 tr. purp.

Gear Cutters

6, 11, 15, 24" Gleason bevel.
Nos. 61, 64, 7 Fellows.
No. 2½ Bilton Gear Miller.

Grinders

18x96 Norton self-contained.
55, 60, 70, 72 Heald internal.
16x48 Landis crankshaft, ch. drive.
Nos. 1, 2 & 3 B. & S. universal.
84" Diamond face.
18x55 Norton Auto Parts.
No. 16 Blanchard
14" P. & W. vertical b. b., (2).

Hammers

100, 400, 800 lb. Std. auto drop.
300, 800, 1500 lb. Chamber. board.

Headers and Threaders

No. 4 Manville SSSD Ball.
No. 4 Manville DSSD, (2).
No. 3 Manville Trimmer.
No. 2 Wat. Farrell DSSD.
No. 1 Wat. Farrell SSSD.
No. 1 Manville DSSD.
No. 0 Manville DSSD.
Several Slotters & Thread Rollers.

Lathes

60"x30' Gleason.
30"x22' Pond.
60"x23' Put am.
48"x20' Bement-Miles.
48"x15' McCabe.
44"x28' Pond.

Millers

No. 5 Cincinnati Plain, s. p. d.
No. 4S Cincinnati Plain high power.
Nos 3B & 2B Milwaukee Pl. (2 ea.)
No. 3 Cincinnati Plain, high power.
No. 3B Milwaukee Univ., s p. d.
No. 3 & No. 3A B. & S. Universal.
No. 2 B. & S Univ., 2 cone, b. g.
No. 2 Cincinnati Univ. Vert., s. p. d.
4" & 6" P. & W. Thread (6).

Planers and Mills

72x72x16' Gleason, 4 heads.
72x48x22' D. & H. openside.
50x56x13' Flather.
48x48x12' Whitcomb.
96" Pond 2 head boring.
42" Bullard Rapid Production (2).
54" Bullard Maxi-Mill.
36" Bullard Rapid Prod. & N. E.
24" Bullard Rapid Prod. & N. E.
Baird Horiz. Automatic Turning (7).

Presses

400 ton coin., EG54 Ferr., 2½" str.
250 ton coin., EGF53 Ferr., 3" str.
150 ton coin., EG52 Ferr., 3" str.
PG3 Ferracute.
PG4 Ferracute, dbl. roll feeds (2).
Nos. 5, 4 & 2 V. & O.
No. 62 V. & O. dbl. roll feed, s. s.
No. 6B Manv. 6" str., s. s., flywheel.
No. 5 Manv. grd. horiz., 6 to 11" str.
No. 129½ Bliss dbl. crk., 100" bet. up.
No. 4½ Bliss double crank geared, 33" between up. (2)
No. 4B Bliss dbl. cr., 42" bet up.
No. 6B Bliss dbl. cr. grd., 54" bet up.
No. 138 Bliss dbl. cr., 79" bet up (2)
No. 3½ Bliss dbl. cr., 42" bet. up. (5).
10-4 Z. & H. dbl. cr., flywheel (3).
(Above 7 machines all have 2" stroke)
160" Hanna Stake Riveter ⅞" & 1" capacity, (2).
No. 156 Waterbury Evelet Mchs. (3).
No. 5 Manville Nut Blanking Press.
No. 610 L. & N. Press Brake motor drive, like new.

Screw Machines

Nos. 00 & 0 B. & S. High Speed.
No. 00G B. & S. Reg & High Speed.
No. 2 B. & S. Regular Speed.
No. 6 B. & S. Full Automatic.
9/16", ⅞" & 1¼" Gridleys.
⅞" & 1¼ Cone, late pattern.
Nos. 24, 33 & 34 New Britain Chuck.
Nos. 5A, 6A, 6C & 6D Potter & J.
No. 1B Foster Chucking.
Nos. 4 & 6 W. & S. Plain, b. g.
Nos. 2A & 3A W. & S. Turret.

Miscellaneous

Blowers, 5½ Roots Foundry (2).
Carbonizer, 29 Am. Gas Rotary.
Edgers, Nos. 1 & 2 Water. Auto.
Furnace, 153 Rockwell Rotary, gas fired pyrometer.
Mill, 9 roll, for forming 16" sheets.
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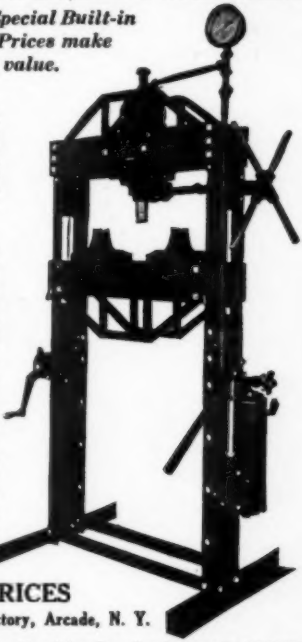

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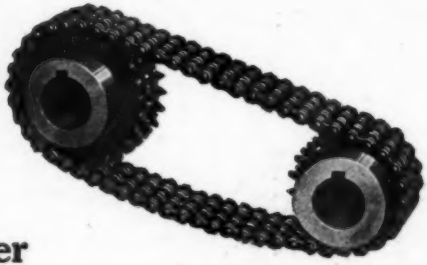

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